January 1946

CONSUMERS' RESEARCH

Bulletin

CONTENTS

CONSUMERS' RESEARCH

Vol. 17 • No. 1 **BULLETIN** January 1946

Off the Editor's Chest

YOU don't have to be "big business" to buy some of the enormous hoard of government surplus commodities paid for with taxpayers' money, but it would help a great deal to have a staff of accountants, purchasing agents, and typists at your command. First of all, it is a fact, though few are aware of it, that individual consumers are not permitted to make purchases directly. Except for certain limited sales to war veterans, sales are restricted to what the "Buyer's Guide for Surplus Property" calls "regular channels of trade." Veterans who wish to make purchases of surplus property *for use in connection with their business*, and small businessmen are supposed to be granted priorities by the Smaller War Plants Corporation, which has at least one branch office in each state, to allow them to buy war-surplus articles, but reports indicate that the procedure is so wrapped up in legal verbiage and conditions of purchase are so complicated and fraught with red tape that the individual will give up in disgust long before he gets within sight of the item he wishes to buy.

Some idea of the complexity of making a purchase may be gathered from the fact that there were at one stage at least eight different government departments from which surplus items were to be obtained. The catalogs or descriptive lists of the products available are, as a rule, so incomplete and often inadequate with respect to information given about the articles and their condition, that the prospective buyer who is able to decipher the instructions for placing his order will very often be buying a pig in a poke. "Notice of Available Property No. 9, from Dept. of Commerce, Office of Surplus Property," for example, lists "Book Case. Wood Sectional, 4 Sections, including base. Condition Code 32 [Meaning, Used—Repairs not required; good condition] $18." Sears Roebuck and Montgomery Ward would probably sell very few book cases if they gave so little information as to the kind of wood, finish, dimensions, design, and no illustration.

In some cases, the descriptions of property available have been downright misleading. The former director of the Office of Surplus Property in the Department of Commerce testified before a Senate committee that of 50 thousand yards of surplus poultry netting declared by the Army to be new, half was rusty and another large amount was garnished with camouflage materials. A lot advertised as 418,000 assorted shoes turned out to be odd or unmated shoes. In another case, electric generator units were advertised as from about $180 to $500 f.o.b. at a Western city. When an attempt was made to buy one of the $180 units, it was learned that the lowest priced ones were not in running order, had parts missing (such as carburetors) and that the buyer would have to pay over twice the lower sum named in order to get a first class used unit in good running order. A gasoline driven pump that was purchased was found on delivery to have a part of its main casting broken and to lack the muffler which belonged with it; a welding job to correct the broken part, the remounting of the tank (which was not the right one for the unit) and the

(Continued on page 21)

Scientific and Technical Experts and Editors: F. J. Schlink, R. Joyce, M. C. Phillips, A. R. Greenleaf, and Charles L. Bernier. Editorial Assistant: Mary F. Roberts.

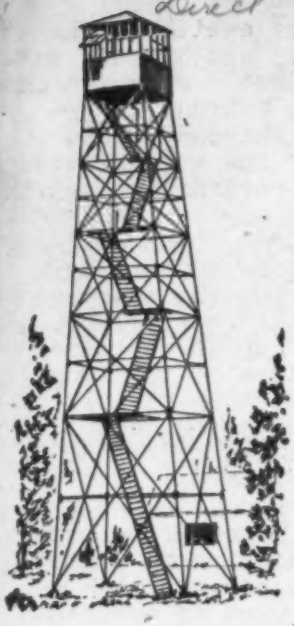
Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price**; 45, 46—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least a month before it is to take effect, accompanying your notice with statement of your old address with name in full. At least three weeks' notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel.

¶CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.

CONSUMERS' RESEARCH BULLETIN, issued monthly by Consumers' Research, Inc. Editorial and Publication Offices, Washington, N.J. Single copy 30c. Subscription price (12 issues) $3 per year, U.S.A.; Canada and foreign, $3.50. For libraries, schools, and colleges, a special subscription of nine monthly BULLETINS (October-June, inclusive) is available at $2; Canada and foreign, $2.50. ¶Responsibility for all specific statements of fact or opinion at any time made by Consumers' Research lies wholly with the technical director and staff of the organization. Entered as second-class matter November 9, 1934, at the Post Office at Washington, N.J., under the Act of March 3, 1879; additional entry at Easton, Pa. ●● Printed in U.S.A. ●● CONSUMERS' RESEARCH BULLETIN is on file in many school, college, and public libraries and is indexed in Industrial Arts Index and in the Readers' Guide to Periodical Literature.

Engin
Direct



The Consumers' Observation Post

DDT, the newly-popular substance that is being widely acclaimed as a kind of magic insect-killer, has a number of disadvantages that are beginning to come to public attention now that the early excitement is wearing off. In the first place, insecticide sprays for household use should contain at least 2-1/2 to 5 percent of DDT to be effective. Some manufacturers have been marketing a product containing as little as 1 percent of DDT, while others have not specified the amount used. DDT is toxic to human beings when swallowed and markedly so when brought in contact with the skin in an oil solution (which is the common form in which DDT is sold for household uses). Yet a British technical trade journal has suggested mixing one of the insecticides in the DDT group in certain proportions with corn, rice, and other cereals, cocoa, tea, and other items to prevent infestation by certain insects. At least one state has issued instructions regarding treatment to be used in case of DDT poisoning, chief of which calls for the use of a stomach pump by a physician or hospital attendant.

* * *

THE PRICE OF BUTTER has gone up at least five cents per lb. since the subsidy was withdrawn in November. Before the housewife protests too loudly at the rise in the cost of this important item in her food budget, she will do well to ponder the pertinent comment of the (Missouri) Daily Capital News that studies of the butter subsidy have shown the actual price of the subsidized butter to be around $1 a pound. The 50 cents that the consumer did not pay over the counter came out of taxes and war bonds. Probably that 50 cents, concludes the editor, "will be paid by this generation's grandchildren."

* * *

WOOL CLOTHING for ladies, young and old, is so scarce that the clothing specialists of the U. S. Department of Agriculture are advising that the old European custom of turning coats and skirts inside out for further wear be adopted in this country. They point out that very often only the outer surface of a skirt, for example, is worn, faded, or spotted and if the fabric shows no sign of wearing thin when held up to the light it is probably worth ripping the seams of a garment and reversing it.

* * *

HOME FREEZERS that are 8 to 10 feet long are not practical for the average home, according to Leonore E. Sater of the Bureau of Human Nutrition and Home Economics, U.S.D.A. Such a box would be difficult to get into the house, particularly the basement. More practical, she thinks, will be a larger kitchen refrigerator with a low temperature storage space. According to the estimate of one manufacturer, 2 cu. ft. of freezing storage space could be supplied for something like $50 extra on the cost of the standard electric refrigerator. After the first urgent demands for the regular pre-war type of mechanical refrigerators are supplied, perhaps we shall see something new in the way of a combination refrigerator and food freezer unit.

* * *

THERE IS TOO MUCH TALK on the radio, comments an editorial in the journal Electronics. It's not just commercials either, but all kinds of talk--program, news comment, program notes, drama talks, and corny jokes. What people want is music--and that doesn't mean "singing commercials."

* * *

MEAT is expected to be at pre-war normal supply in relation to demand by

this summer, reports Business Week. There are huge numbers of cattle on the range. The Army and Navy have cut their purchases drastically and are now eating up their stockpiles of canned, cured, boned, and frozen meat. Pork, which has been scarce, is expected to show a 30 percent increase by February. Approximately 30 percent of the total beef production is being shipped abroad, but it is estimated that, even after exports and the needs of the armed forces are allowed for, there will be around 155 pounds of meat per person next year. The 1945 consumption was around 126 pounds.

* * *

THOSE RADIO SETS that were supposed to be available in fair numbers by Christmas failed to materialize. Much of the responsibility for the shortage is laid on the doorstep of the OPA's price formula for the radio parts industry. The parts manufacturers insist that they could not produce at a profit and hence few parts reached the set manufacturers. An executive of the Crosley Corporation estimated that the company should have had 5000 persons at work instead of 500 and should have turned out 40,000 sets in one month instead of none. The head of Zenith Radio reported 1000 persons at work instead of 5000 required under peak production conditions.

* * *

THE FASHIONABLENESS OF LOW-HEELED SHOES for women during the war years has had a beneficial effect on the design of shoes for girls, according to a shoe trade journal. It appears that since Mother wears low heels, her teen-age daughter does not feel deprived and rebel when she is not allowed to purchase high-heeled shoes. On the other side of the question, as to one type of low-heeled shoe, some weight perhaps must be given the observation of a noted specialist that loafer shoes are an important cause of flat feet, particularly when there is frequent shift from high to low heels.

* * *

ICE CREAM STANDARDS were lowered during the war in some 18 states, including California, Illinois, Michigan, Minnesota, and Wisconsin. Some states, such as Illinois and Wisconsin, have already taken steps to return to former standards of quality, while others must wait for official state action or in some cases, an interval of six months to a year is allowed after formal termination of the war emergency. If the ice cream in your locality is below par (and quality is still very low in some places), it may be helpful to make your objections known to your state department of food and drugs. Sometimes low standards are allowed to continue indefinitely unless discriminating consumers protest to those in authority.

* * *

HOUSES are so hard to find and so expensive to buy or build that many people would undoubtedly agree that the poet might better have said "My kingdom for a house." The Wall Street Journal reports that a young couple who wanted a house built like "father had built before the war for $5000" were advised that the cost would now be $8500. In Philadelphia, a six-room house that cost $6000 to build before the war now comes to $9000. In Detroit, a pre-war house built for $8000 will now cost $12,000. There are severe shortages of materials and skilled help. The prices of material and wages for labor are high. Special union rules and restrictions put additional burdens on home building in many city and suburban districts. It is estimated that building trade wages account for half the cost of home construction.

* * *

BAKED POTATOES should be eaten promptly after they are done to obtain the most of their vitamin C content. Studies at the Illinois and the Idaho Agricultural Experiment Stations indicate that overbaking causes loss of vitamin C and that potatoes allowed to stand for half an hour after they were baked lost 33 percent of their vitamin C. Those that stood for an hour lost 50 percent.

* * *

A NEW RAT POISON has been developed during the war that is as deadly to rats as DDT is to certain insects, according to announcement. The substance called ANTU from the initial letters of its composition, alpha-naphthyl-thiourea, was discovered by Dr. Curt P. Richter of Johns Hopkins Hospital. It is reported to be a fine gray powder, with little taste or odor, that acts exclusively on rats by causing dropsy of the lungs. Chickens, rabbits, and certain other animals are not affected by it, and it is considered to be not dangerous to human beings. The new raticide is expected to be available to the public

(The continuation of this section is on page 29)

Your 1946 Car—II

EDITOR'S NOTE:

THE practice which Consumers' Research has normally followed of issuing in one complete discussion in a single BULLETIN all the information and ratings on the new cars could not be followed this year because of the unfortunate circumstances which prevail in the automobile industry. Strikes and labor difficulties of other kinds, in addition to reconversion difficulties—some associated with the post-war price-control policies of the OPA—have created a situation that has seriously delayed arrival of the new cars on the market in any significant quantity, and at this date there are still some makes about which little or no information on details of design is available. The specifications so far in hand, for example, do not include weights of the majority of the cars. Without these, the tire loading and performance calculations cannot be made. Prices so far announced by OPA are said by one business journal to be more hypothetical than actual, as they do not cover the improvements and changes in the new models; the manufacturer is permitted to add the cost of these under present regulations. (The actual price, when delivery is taken at Detroit, may be as much as $130 above the OPA base.)

Because of the wide interest in the new automobiles, even in the present unsatisfactory state of the market, Consumers' Research believes its subscribers' interests will be best served by issuing the available information as quickly as possible after it comes to hand. As soon as enough data are available to permit the engineers to rate the cars on an *A*, *B*, and *C* and relative price basis in the manner previously used in CR's Bulletins, a confidential supplement presenting these ratings and other data in condensed form will be sent to all individual subscribers who signed the confidential agreement when their subscription was entered. So far as can be determined, it seems probable that conditions as to prices and other factors in the industry will make it necessary to postpone issuance of this supplement until early spring. It is believed that for the most part, because changes made have been in the main in the direction of clearing up previous faults and defects of the cars and in details which in some cases affect chiefly appearance, the ratings of the cars will follow fairly closely the ratings which the same makes received in CR's BULLETINS in 1941 and 1942. ¶This is the second of a series of articles discussing the new cars.

Buick. While Buick's advertising agency obviously continues to believe that fancy names for various car features are strong factors in helping to sell cars (such names as "Fireball" engine, "Airfoil" fenders, "Flite-weight" pistons, "Panthergait" coil springing, "Broadrim" wheels, etc.), we nevertheless feel that the 1946 models offer improvements which might well have been advertised in more simple terms, for what they are. Not only has the sad lesson been kept in mind of the small spark plugs which CR reported in 1942 as not proving too successful, and service difficulties of the two carburetors (compound type), but significant changes to improve the product have been made. First production will be a 4-door sedan of the 50 Series, 8-cylinder engine, 124-inch wheelbase, with the 121-inch and 124-inch wheelbase to be followed later by Series 40 and 70.

While, of course, the forward end of the car has been restyled, with the result that the open-mouthed-whale effect is accented when the grille is seen at some distance, the general appearance of the *Buick* remains much like that of the 1942 car. The bumpers are of the new longer type. The grille is of vertical bar design and is stamped from cold-rolled steel, over which a sheathing of chromium-plated stainless steel is applied. (To some steel makers the use of chromium plate over stainless steel has brought cries of horror, but this grille should retain its appearance for some time, just the same.) The parking lamps and direction signals, which are mounted directly below the headlamps, are larger than previously. The lenses of these and of the tail lamp are of plastic. A substantial looking horizontal bar is mounted between the tops of the bumper guards, with space below for the license plate.

The side grooves or creases in the front fenders have been removed, giving a smoother appearance to this portion of the car. The rear wheel shields are provided with a theft prevention device to protect rear tires. The rear bumper is mounted in a bar of deeper section, so that when a bumper jack is used, the bumper does not deflect excessively. Incidentally the car is also equipped with a new jack which has a lifting bracket designed to prevent the jack from slipping sidewise.

Engine

While the most important change for 1946 is probably the return to aluminum pistons of the design used in 1941, numerous refinements throughout the engine may be noted.

Apparently because using a finish slightly "rougher" than many makers consider suitable is believed to provide a surface that can be more effectively lubricated —an innovation introduced on the crankshaft bearings of *Buick* cars for 1942—a hone producing what has been termed "controlled bore smoothness" is used in finishing the cylinder bores. Following this the bores are given a manganese phosphate (*Lubrite*) treatment to prevent piston ring scuffing during the break-in period (approximately the first 500 miles of operation by car owner), and to aid also in the rapid seating of the rings. The compression rings are practically the same as used on 1942 cars, while the oil-control rings are of the single edge-vented type. (The use of the manganese phosphate coating is considered equivalent to the pre-war practice of plating the pistons with tin or other soft metal.) The valve rocker arms are also given the same treatment, eliminating the copper plating used on the rocker arm shaft on 1942 cars. The rocker arm brackets are again of die-cast aluminum as in 1941 cars. These precautions in the rocker arm chamber should assist materially in reducing the effects of corrosion and the valve sticking that sometimes resulted therefrom.

As noted previously the carburetor is now of the dual type rather than the so-called "compound" or two-carburetor set-up. The intake manifold has of necessity been redesigned to conform with the dual type carburetor's requirements.

The spark plugs are of the 14 mm. (standard) size (type 48 AC) and utilize insulators (cores) of aluminum oxide, one of the newer ceramics adopted for passenger car spark plugs. An oil filter is no longer furnished as standard equipment.

Quite a number of refinements resulting from wartime service experience have been made. The water pump seal ring is now of carbon instead of fiber. The chamfer at the top of the cylinder bores has been changed in a way to facilitate more rapid assembly with less likelihood of ring breakage by the service mechanic. Detail improvements in the clutch aim at reducing excessive wear.

Drive-Line and Running Gear

An excellent example of the acceptance of a wartime steel for post-war use is the adoption of what was formerly termed NE 9260 steel for the four-coil springs used in the *Buick* suspension system. This steel, now listed by the Society of Automotive Engineers as SAE 9260, is of the silicon manganese variety, suitable for springs subjected to severe loads.

Threaded sleeve-type bearings are now used at the inner ends of the front suspension lower control arm shaft, a design which provides more bearing area and better retention of relative position of mating parts, which is very important. It is understood that sleeves of this type will also be made available as replacements for earlier model cars.

Rear axle changes include stronger drive shafts at the wheel ends with hardened inner ends to reduce the development of end play, a larger diameter flange on the differential case to increase its rigidity, and a more substantial ring gear to afford better meshing with the drive pinion under shock loading, such as occurs when the car is rapidly accelerated. Continued from 1942 are the new wheel rims which provide a wider base for the tires, thus tend to reduce "roll" and other evidences of instability that develop with high speeds on rough roads. (Buick engineers have just reported an elaborate series of static and dynamic tests conducted on various cars to determine causes of the "feel" of instability in terms of actual strains of frame, body, etc., in handling by the driver.) Larger wheels and tires and high springs are available as optional equipment for rural drivers who require high road clearances.

Bodies

Buick is one of the companies to go in for far more elaborate precautions against body deterioration than hitherto used.

Body panels are given a special treatment to prevent rust. Similarly, internal body framing members are painted on the inside with asphalt base material, while the insides of the doors are painted between the inner and outer panels. To prevent dust from entering the body through vent holes, a heavy asphalt sealing compound is used between the edge of the floor panel and outside panel. Sill plates, formerly of steel, are now aluminum. Interior hardware now is of chrome-plated die-castings instead of plastic, while moldings are either of plated brass or of stainless steel. Chrome-plating on exterior hardware is one-third heavier. The gear support in the seat adjuster is a die-casting, replacing a steel stamping that was too weak for its job. Use of the die-casting should eliminate trouble from the seat moving backward when the brake pedal is pushed. In one instance reported to us a near-accident occurred from too violent brake application caused by the seat moving forward following a minor application of the brakes.

The windshield wiper motor is now mounted ahead of the dash in the engine compartment and is connected to the wiper arms by a flexible drive; this makes for greater convenience in making repairs, which is badly needed on windshield wipers of many cars.

Cadillac. Since this car represents the top-price vehicle of the G.M.C. line, the changes which have been made in other G.M.C. cars which are applicable to the *Cadillac* have been included, along with others exclusive to this car.

Style changes are chiefly the new grille, the longer front and rear bumpers, and the auxiliary or fog lamps set into the fenders. The grille is an integral unit independent of the lamps. Rustproofing of the body is greatly improved. Better caulking and the use of thicker pieces where rusting out formerly occurred have been

used. There are more die-castings and fewer stampings, no more plain steel (chromium-plated) being used for moldings, etc. (See *Buick* and *Pontiac* descriptions for more details of internal improvements of the body.)

Engine

General specifications for the engine are the same as formerly (V-8, 3.5 x 4.5 bore and stroke, 346 cu. in. piston displacement, 150 h.p. at 3400 rpm.). However, numerous refinements have been introduced. Pistons carry three instead of the four rings formerly used, 2 compression and 1 oil control type. The pistons have been redesigned for greater structural rigidity and better control of oil consumption. The valve guides have longer and deeper counterbores (see *Pontiac*) and are treated to resist corrosion and to provide against sticking (*Ferrox* treatment). Carburetion changes include a newly designed choke heater stove with chromium-plated choke shaft (to help prevent sticking from accumulations of gum from the fuel) and an improved carburetor accelerator pump.

Transmission

It is in the *Hydramatic* transmission, which continues to be offered as optional equipment, that the most significant changes have been made. Since a similar transmission was used during the war, the experience gained under extremely severe conditions becomes a benefit to car owners buying a car with this transmission. (Incidentally, the *Cadillac* engine was one of those used extensively in military vehicles.) While the improvements made in the transmission are of a rather technical nature, hence need not be discussed here, they sum up to such things as reduced drag in starting in cold weather (through use of a fluid having better viscosity characteristics at low-temperatures); greater freedom from "rough" action in gear-changing due to the use of additives and detergents in the fluid to prevent foaming, gumming, and sludge; improved internal lubrication of running parts; wider and stronger bands; redesigned clutch plates; and the elimination of many parts. All of these contribute to longer operating life with less to be spent on maintenance. Changes such as these, and others, would lead to the conclusion that probably the *Hydramatic* transmission has "arrived" as an entirely satisfactory unit for those owners desiring the advantages of almost automatic control of the gear-shifting operation. Certainly enough engineering effort, time and money have been applied to this unit to make it so. Today it seems to represent the best unit of this type now available from any car maker.

Chevrolet. A careful examination of one of the new cars, plus information released and discussion with dealers, appear to confirm CR's comment in the December 1945 BULLETIN, that virtually no mechanical changes have been made in *Chevrolet* cars for 1946. All effort seems to have been directed toward improving the appearance of the cars; the results have been very good.

Chevrolet is one of a number of cars to adopt the longer and more massive appearing bumpers, which provide better protection to fenders than the former type. New grille, hood ornament, and similar exterior changes are in evidence. (General Motors has always seemed to have a better appreciation of style appeal than other car manufacturers, especially Ford, whereas the latter company has given more attention to mechanical design and refinements. With the more "merchandising-minded" leadership which Ford now appears to have, this distinction may be eliminated in the future.)

Pistons of cast alloy iron as used in previous production are again specified for 1946 cars. While technical data released for publication state that for 1946 specialized lubrication is employed, with oil under pressure to rocker arms, camshaft and crankshaft bearings, and with "pressure stream" lubrication to connecting rods, this would seem to be just another way of describing the lubrication system formerly used. All of which is rather reminiscent of the era of "advertising engineering" a decade or more ago when "labyrinthian oil circulation" and "twin neutratone mufflers" and similarly mysterious advertising phrases were featured items in publicity for new car models.

At any rate it would seem that in so far as mechanical changes are concerned, Chevrolet would mention them if there were any of importance to announce. Such changes are not discernible in the announcements emanating from the manufacturer. Those actually made are perhaps not deemed significant enough to warrant presentation in the publicity.

Ford. The number and variety of changes made in *Ford* cars since 1942 models were produced are sufficiently important to make the 1946 cars more than facial renovations of the pre-war models. In fact the changes are as significant as have been made between previous earlier models, so that the 1946 *Ford* car can properly be termed a "new" model. (This may be a reflection of the change of management of the Ford Motor Co. recently, as well as indicating strongly that wartime service problems have been given their due attention.)

General

While a *V-8* engine will be available first, 1946 cars will also be produced with *Ford* 6-cylinder engines as soon as production facilities will permit. The *V-8* engine is larger than previously used. The 6-cylinder engine is similar to that introduced just before civilian production was discontinued early in 1942. The wheelbase remains the same as formerly (114 inches) but it is expected that chassis changes will provide better riding qualities than before. Concessions to "consumer appeal" are evident in the greater attention paid to matters of styling, color harmonizing and matching of trim, etc. No "cheapening"

of the product to reduce manufacturing costs is evident at any point, and it would appear that any adverse effects of post-war restrictions on materials available for 1946 production have been minimized. Attention seems also to have been given to the factors that have caused some criticism of fuel and oil consumption characteristics of the *Ford* car.

Styling

As with all makes of cars for 1946 the front end of the *Ford* has been restyled. The forward end of the hood has been widened to give a more massive appearance, which is further emphasized by wide stainless-steel grille bars, four of which extend across the car between the headlamps. Parking lamps are mounted in the front edge of the splash aprons (between fenders and hood sides) some distance inside the headlamps, which are in the same general position as formerly. The belt molding also is of stainless steel, and extends virtually from the front of the hood to the rear deck. (The upper bar of the four grille bars in the car studied appeared to be chrome-plated, so may not have been stainless steel as the lower three bars were.)

While the front-end bumpers of the car examined were apparently the same as those used in 1942 cars, we were advised by the dealer that a longer type would be used later. However, there is no mention of longer bumpers in limited *Ford* descriptive folders used when the car was announced on October 26th or 27th. The 1942 bumper, while quite long, did not extend far enough to prevent accidental contact of another car with the edge of the front fender.

Interiors

Present information indicates that the interior of the de luxe car will be finished with a light tan metallic color for the instrument panel and garnish moldings. Fittings will be finished in dark tan plastic. (No new information on upholsteries; the question was covered, in general, in a previous BULLETIN.)

While present information states that the instrument panel and garnish moldings will be finished in gun-metal blue, with blue-gray plastic ornamentation, the shade of color seems more of a rich gray-blue, more gray than blue. This is contrasted with a rich or scarlet red which forms the two-tone coloring for the steering wheel and horn button. With this color combination, the seat back faces and cushion tops are upholstered in a gray mohair, with edges trimmed in synthetic or real leather. (If not genuine leather, it is a good imitation.) Door scuff panels are also made of this material.

Engines

The principal change relating to engines is that the *Ford V-8* is equipped with the larger or *Mercury* size of engine. (Bore and stroke 3.187 x 3.75 inch.) Piston displacement 239 cu. in., or about 8.5 percent larger than the *Ford* engine in 1942 cars. The compression ratio of 6.4 to 1 is slightly higher than that used in the 1942 *V-8 Ford* cars, which was 6.2 to 1. Rated power is 100 brake horse power at 3800 revolutions per minute.

The 6-cylinder engine is 3.3 x 4.4 inch bore and stroke, 225 cu. in. displacement, rated at 90 h.p. at 3300 rpm.

Both the 6 and the *V-8* are equipped with aluminum pistons, discontinuing the cast alloy steel pistons used for some years in previous *V-8* engines. The aluminum pistons are equipped with 4 rings to favor high oil economy. The piston pins have heavier wall sections than formerly, to prevent failure in service. (Crankshaft counterweighting has been increased accordingly.)

To further reduce oil loss, the *V-8* engine utilizes a newly designed rear main crankshaft bearing oil seal. Replacing the labyrinth type seal formerly used is a ring packing in combination with a reverse spiral groove connected with a larger oil drain hole for returning to the crankcase any oil reaching the rear end of the bearing. Greater oil pressure reserve capacity is obtained by a larger oil pump.

Several changes to improve engine cooling, especially cooling around the valves of *V-8* engines, have been made. The distance from the valve heads to the edges of the cylinder bores (at upper end) has been increased by a little less than one-tenth inch, thereby making it possible to extend the water jacketing around the valves so that it can more effectively cool the valve seat areas adjacent to the cylinder bores. The purpose is to prevent the development of cracks in the cylinder casting between the bores and seats, a difficulty which has been a maintenance problem for owners who are hard drivers. Both 6- and 8-cylinder cars are equipped with pressure-valve radiator caps which are adjusted to permit an increase of about 8°F above the normal boiling temperature of water (212°F). In addition to reducing loss from surging of coolant when engine is stopped after driving the car at high speed, this improvement permits the engine to operate in hot weather at a higher temperature without boiling, and in cold weather the evaporative loss of alcohol will be reduced. (A slight increase in engine efficiency may also be obtained.)

Newly designed water pumps on the *V-8* in which a bronze washer is interposed between the seal and pump housing, instead of the seal's being mounted directly against the iron of the housing, should not only prevent pump leakage for a longer period of time, but also reduce accumulations of rust in the cooling water of the engine. The radiator is now mounted in a cradle with a single center-point bolt. Rubber is placed between the front crossmember and the cradle, while a cushion spring is provided above the cradle around the bolt. Two diagonal members are formed by the ends of the cradle. These are

attached to the vertical members at the sides of the radiator, which also form the mounting for other sheet metal parts at this point. By thus isolating the radiator from the chassis, cracking of the top tank at the corners and at other points (reported as another maintenance problem on *Ford* cars) should be eliminated. A new "high-efficiency" fan is used.

The shortage of tin apparently has not presented any problem so far as connecting rod bearings are concerned, for these contain none of this metal, in the *V-8* engine at least. A so-called Silvaloy or "tri-alloy" is used, consisting of lead, copper, and silver. Recalling that Ford used a copper-lead bearing material (not a true "alloy") prior to the war, with questionable results due to breakdown in the bond between the bearing metal and steel back, the new bearing material should prevent segregation of the weaker lead constituent, and so eliminate difficulty from failure of the metallic bond. A greatly increased bearing life is claimed (as compared with the bearings used in 1942 engines—which suffered from some fatigue failures in hard service). The copper-lead-silver bearing is one of the wartime developments, which was evolved primarily to avoid the use of either tin or cadmium ("short" metals during this period and now). On the other hand, it is understood that more than 500,000 of these "tri-alloy" bearings have been successfully used in hard military service—an experience record which it would seem should give reasonable assurance of their satisfactory performance in civilian cars.

Improvements in the ignition system also are numerous. The distributor cap has been redesigned so that the secondary wires are brought out of it near the top instead of at the sides as formerly. A much simpler tubular rubber cover or seal replaces the combination cup or cap and tube formerly used. The high-tension wires are therefore better protected against mud, water, and oil (although little trouble has apparently been experienced by *Ford* owners with water-logging of the ignition system in heavy rains, etc.). Provisions for ventilating the distributor housing should correct the occasional misfiring troubles arising from accumulations of moisture within the unit.

Coincident with this change, the ignition coil is now mounted high on the left side of the engine instead of directly on top of the distributor unit. Ignition wiring on both 6- and 8-cylinder engines is insulated with synthetic rubber (Neoprene). This material is almost completely resistant to deterioration from oil and water. Incidentally this material is also used in the front motor support cushions on both engines. A new voltage control regulator will be used.

Adopting a feature used in *Lincoln* cars previously, a thermostatically controlled by-pass valve is mounted in the left exhaust manifold. As this remains closed when the engine is cold, a greater quantity of exhaust gases is forced around the "hot spot" or warming area between the cored internal exhaust passages in the cylinder block and the intake manifold. Much quicker warming up of the intake manifold with quicker smooth operation of the engine in cold weather is thus provided. One engineer believes that this valve will bear watching in service. Unless the valve shaft resists corrosion fully, the valve may stick in the closed position, thus supplying hot air to the intake manifold at times, as in hot weather, when this should not occur. (While we know of no cases of trouble with *Lincoln* cars, the *Lincoln's* thermostat was not located at such a hot point in the exhaust system. On the other hand frequent trouble with similar devices on other makes of cars has occurred. See *Pontiac.*) If this device functions properly, it should improve fuel consumption, as well as help in warming-up. The carburetion system has also been modified "to improve economy and performance" (just how, is not known unless it be through improved volumetric efficiency, as noted later).

Both 6- and 8-cylinder engines are equipped with oil and air cleaners. The air cleaner is of the full oil-bath type (containing a supply of fluid oil, and an aluminum-magnesium filtering material—96% aluminum, 4% magnesium—not just oil-coated copper wool, etc.), and the same material will also be used in the combination breather and oil filter cap. The oil filter is of the replaceable cartridge type (made by Fram for Ford), using the better known "waste" packing. It is expected that cars of later production will use a filter element of the cellulose disc type as soon as this material is available.

A change closely related to the better valve cooling noted previously, which should increase performance (see Footnote 1) and efficiency with a slight gain in economy of fuel utilization, is a relocation of the valve pockets in the combustion chambers. The pockets have been moved outward (0.070 inch). The intake ports also have been widened at points nearest the valve guide bushings. The object of these two changes is to reduce restrictions to the flow of intake gases ("the mixture") into the cylinders. In this manner power output is increased over a wide range of throttle openings, and this may be effective until restrictions to flow in the carburetor have their effect (throat diameter of carburetor, etc.). The cylinder heads have been made interchangeable (same for either bank of cylinders) to lower cost of replacement of heads.

Other engine changes include the adoption of aluminum timing gears on both the 6- and 8-cylinder engines, shot blasted and rust-proofed valve springs (some breakage noted during the war period), and according to claims an im-

[1]The ability of the car to respond quickly and powerfully when the accelerator pedal is depressed.

proved ("controlled") cylinder wall finish.

Changes exclusive to the 6-cylinder engine include increasing the thickness of the outer wall of the cylinder block, for greater rigidity and strength, and the adoption of a new exhaust manifold designed to prevent vapor-lock in hot weather. A corresponding change in the distributor to that in the *V-8* also aims to provide improved moisture and dustproofing.

Seat inserts for both intake and exhaust valves are continued.

Chassis

Changes in the *Ford* chassis are almost as significant as the substantial ones made in the engines. The most obvious of these from the standpoint of the car owner is a change in the brakes. Whereas the lower ends of the brake shoes have been "fixed" since Ford adopted hydraulic brakes some years ago, the shoes now can "float" vertically. This permits both shoes in each drum to center themselves against the drum, providing more even contact between drum and shoe. High localized pressures, especially at the ends of the shoes, a cause of squeaks, is thus prevented.

The floating action is obtained by permitting the shoes to slide on the fixed pivots (no "floating" pivot or anchor used as in some types), when the upper ends are spread apart by pedal pressure acting through the hydraulic system.

This change reduces the pedal pressure required and by equalizing lining contact should reduce the frequency of adjustment and brake-shoe lining replacement. The longer curved handbrake lever with finger release, as used on *Lincoln* cars previously, has now been adopted for *Ford* cars.

That riding comfort has been considered, even though the basic springing is unchanged (and for many good engineering reasons, despite criticisms), is evidenced by the following: For increased road stability especially on curves and at high speed, a lateral (transverse) stabilizer is installed on the rear axle (formerly on the front only). The time of oscillation or swing of the springs has been lengthened by the use of more and thinner spring leaves. The main leaves also are shot-peened to increase their service life by reducing the possibility of fractures from the development of cracks. Spring shackle bushings are now of synthetic rubber, thus removing a frequent cause of noise due to looseness caused by the action of chassis lubricants on the natural rubber formerly used.

The shock absorber oil seals have been changed from a flat felt-and-asbestos combination to synthetic rubber having a tapered seat. Rapid loss of fluid with consequent reduction or complete loss of shock absorber effectiveness should thus be eliminated. (This trouble has been a problem to many *Ford* owners, to the point where some service stations have been replacing the *Ford* shock absorbers with those of other makes and types.) For use with the improved absorbers, a new low-cold-test fluid has been developed. The stiff shock-absorber action often experienced in cold weather, and the soft "bouncy" action occurring in hot weather should thereby be reduced. (Effective and uniform shock-absorber action will be a more important quality in the future, with the softer chassi springs now used.)

A new bumper jack of ratchet type is supplied (much to the satisfaction of anyone who has suffered the inconvenience of trying to use the "slip stick" variety supplied with his earlier *Ford*).

* * *

Some dealers in the Midwest are receiving cars of the 2-door ("Tudor") type. Production on the Sportsman's Convertible which is a new body type using a combination of the wood construction used in station wagons and a convertible type steel body, is understood to be forthcoming soon. This combination body type should have a considerable appeal to certain buyers.

Lincoln. Possibly most significant news relative to these cars is that all custom models have been discontinued. These models, in 1942, were offered on a 138-inch wheelbase chassis but, only the cars on the 125 inch chassis will be offered for 1946. These include the cars formerly (1942) identified as the "Lincoln-Zephyr" and the "Lincoln-Continental" lines. (There were four body types for the former and two for the latter.)

Since few cars were made in the 1942 series, and these embodied numerous changes, compared with 1941 cars, complete details concerning these may be given at a later date. Improvements for 1946 not included in 1942 cars are as follows: Better lubrication system, with oil pan capacity increased from 5 to 7 quarts, larger oil pump, and especially improvements in the hydraulic type valve lifters aimed to prevent gumming and low oil pressure (at the lifters) which causes the valve stem clearance to become excessive, hence makes valve operation quite noisy. (Valve timing also is affected, with consequent loss of power and possible misfiring.) The hydraulically operated window lifts or regulators, offered for 1942 only as regular equipment on the *Continental* and *Custom* models are now standard on *Lincoln-Zephyr* cars as well. The usual mechanical type of window operating device will be available for those who prefer it. The front end of the car has been restyled to provide a rather massive appearance. The "Liquimatic" drive (offered on 1942 *Lincolns*) is expected to be available later at extra cost.

Mercury. Since it is now stated that this car will have the same engine as the *Ford V-8*, the question naturally arises as to what reason there might be for buying a *Mercury* in preference to a *Ford*, especially since the mechanical changes made in *Ford* cars will also be made in *Mercury* cars. This is something that dealers would like to know, too. (However, some-

thing may yet be done by Ford to make the *Mercury* differ more from the *Ford* than when first announced.)

Of course the *Mercury* has been restyled at the front end. The wheelbase is 4 inches longer, which in general helps to assure somewhat better riding comfort. However, since the basic bodies are understood to be the same for the two cars, this additional length, as was the case in earlier *Mercury* cars, must be added to the hood length (length from fire dash to front axle). Thus the longer wheelbase does not provide additional longitudinal seating space for driver and passengers. (Ford of course is not the only manufacturer offering substantially the same body on several models or "makes" of cars.) Due to its greater length, the *Mercury* is slightly heavier than the *Ford*, so that its performance with the same engine will not be as good.

Granting that finer upholstery materials are used in *Mercury* than in *Ford* cars, that the body types offered are not all the same, and that a wider variety of color combinations will probably be available, we wonder just what else besides the name will be found to justify a difference in price between the two cars. We notice that the *Mercury* nameplate will be more prominently used, along with the word "Eight" (Ford uses the term "*V-8*" for the *Ford*), also that the name "*Mercury*" appears in large letters on the instrument panel.

For those who are not particular about any additional prestige that might accrue through the name, and do not care greatly about styling or color combinations, etc., it would appear that the *Ford* will be considered quite sufficient.

Nash is one of several companies which has gone in for quite extensive changes for 1946, especially on the *600* model; this seems to have been almost completely revamped, with changes in engine, drive line (clutch, transmission and propeller shaft), and running gear (although the "frameless" all-steel body construction has been continued). Conversely, the front suspension system previously used on the *600* has been discontinued and the parallel arm type of front wheel suspension is now used on both *Ambassador* and *600* models.

Ambassador. The horsepower of the *Ambassador* 6-cylinder (overhead valve) engine is now given as 112, compared with a former 105 h.p. This increase has been accomplished by an increase in compression ratio from 6.4 to 1, to 6.8 to 1, and by other changes in the intake system. The intake passages have been "smoothed" with a smooth manifold "floor" for improved mixture distribution. Water cooling around the spark plugs has been increased so that there is less likelihood of pre-ignition from hot plugs. Cooling of exhaust valves is also better than formerly. The intake hot-spot now is located only under the carburetor and not at several points along the intake manifold. The intake manifold, which in this engine is incorporated within the cylinder head casting, has been raised to a higher position, with less heat applied so that the mixture will be cooler when it reaches the cylinders. The rocker arm design has been revised. Valve stem ends are hardened and a single spring now is used for each valve. (A single spring is sufficient provided that the natural vibration frequency of the spring is not in the operating speed range of the engine; if it is, any tendency to vibrate must be controlled so that spring "fluttering" does not prevent properly timed closing of the valves.) The pistons are of aluminum with four rings. The upper and lower halves of the connecting rod bearings are identical, each having an oil slot so that inadvertent exchange of the bearing halves by a serviceman will not cause a closing of the oil lead to the piston pin bearings.

The clutch used on the *Ambassador* (also on *600*) now utilizes stiffer flat springs under the facings. A woven facing is used on one side and a molded facing on the other. Since these two types of facings differ in their frictional characteristics (coefficients of friction), a smoother clutch action is provided, giving more even pick-up of the engine power. An "over-center spring" reduces the clutch pedal pressure when the clutch is fully disengaged. The clutch linkage has also been changed to reduce clutch chatter. Lubricant fittings have been added to the clutch throwout shaft and "Lubrited" sleeves are now used on both clutch and brake pedals to reduce wear and prevent side-wobble of the pedals.

Transmission changes in the *Ambassador* include the adoption of a different helix angle on the main shaft, which will help to hold the gears in mesh more securely than formerly. The gear-shifting mechanism has been made more rigid, and the bracket attaching the shift lever to the steering column has been stiffened.

Although no major changes have been made in the rear suspension of either car, the spring rate (the measure of stiffness of spring action) has been reduced by 12%.

Nash 600. Engine changes in the *600* are numerous. The combustion chamber design is new. Valves are ⅛ inch larger. Mixture passages into the combustion chambers (ports, etc.) are smoother. Valve heads have been moved farther away from the cylinder walls, providing better valve cooling (change similar to that made on *Ford V-8*). The valve guides are longer and valve stems have hardened ends (as on *Ambassador*) for longer valve life. The carburetor on the *600* is of the triple-venturi type as used formerly on the *Ambassador*. To prevent flooding in cold weather, it is equipped with an automatic drain valve which allows the excess fuel to drain off when the engine stops. The intake manifold is now mounted in a horizontal position (parallel to the ground instead of to the crankshaft centerline) so that accumulations of fuel toward the

rear end of the manifold when excess quantities are used for starting and warming up, are prevented and a more even distribution of the mixture to all cylinders is provided. This should result in a smoother flow of power. (Less "galloping" or misfiring and more constant engine torque.) Helical oil pump gears, as used formerly on the *Ambassador*, are now used on the *600*. The lubrication system provides an increased flow of oil to the various engine bearings. The net result of the above engine changes, especially the larger valves and improved intake passages, is an increase in power output from 76 h.p. to 82 h.p.

Possibly the most important change in the *600* is that the transmission is entirely new. The mainshaft and countershafts have been located ½ inch farther apart (3 instead of 2½ inches) permitting the use of larger diameter gears, which in turn reduces bearing loads and the loading of the gear teeth. The increased spacing of the two shafts also has permitted an increase in shaft diameter, thus increasing their resistance to deflection (bending); this tends to prolong gear life. Larger gear synchronizers are included, and there are improvements in internal lubrication. Further drive-line improvements consist of a revised method of clamping the propeller shaft at the rear axle end, a heavier torque tube flange with larger studs in the axle housing, and new rear wheel bearing oil seals to help prevent leakage of axle lubricant onto the brakes.

The frameless all-steel body design has been improved, body floors are more rigid, and door locks, window regulator handles, door hinge springs, and rear deck hinges have been made more rugged. The fenders and entire body have been made rust-resistant (by the Bonderizing process). The same type bodies are used on the *Ambassador* but with a conventional frame (necessary because of the larger engine and the 9 inch longer wheelbase).

The adoption of the link (parallel arm) type of front wheel suspension on the *600* marks a "standardization" in type for the two models. The entire new front end assembly, which is mounted on a transverse sub-frame member attached to the body-frame, is claimed to be readily removable as a complete assembly, for servicing. By mounting the upper end of the front wheel spindle "knuckle" in a ball joint on the upper links, and a bushing in the lower links (or arms), the customary king-pin is eliminated. The coil type chassis springs are mounted in deep inverted cups at their upper ends, thus enclosing them partly. The steering linkage to the spindles is of the center-mounted type, with the mounting on the sub-frame as noted above. The entire set-up would seem to be an example of good engineering and "front-end geometry," and should provide very smooth and firm control of the front wheels.

The forward ends of the *Nash* cars have been restyled for 1946, with longer fender-protecting front bumpers, which it is understood were introduced by Nash in 1942. (The four lower grille bars are also curved around the fenders.) As the outer ends of these bars are made as separate pieces, replacement is readily made if damage occurs. The center section of the grille, also of bar type, is a chromium-plated die-casting.

Equipment listed as special at extra cost includes oil filter (standard on *Ambassador*), oil bath air cleaner, vacuum booster fuel pump, air heating system, direction signals, radio, and foam rubber seat cushions.

Packard. Consistent with its policy of retaining the characteristic "Packard" form for the radiator grille, the style changes made for 1946 are of a minor character. On the *Clipper* model (which will be produced first) the grille has been restyled, and the radiator emblem located in a lower position. The longer bumpers also will be used.

Since Packard concentrated its production facilities on marine and aircraft engines during the war, it disposed of much of its body-making equipment (presses particularly) to other war contractors. The company therefore will not be in a position to manufacture bodies for many months to come, possibly for a year. In the meantime, bodies made by Briggs no doubt to Packard specifications will be used.

Only a few mechanical changes have been reported to date. Two are in the engine and one in the steering mechanism. Crankshaft bearings will be a steel shell type lined with a copper-nickel matrix material impregnated with a special babbitt. To eliminate piston ring slot clogging and provide a more even pressure around the periphery of the ring, a new coil type expander will be used.

The new steering gear will utilize a worm and triple tooth gear on a roller (two teeth usually used) with the roller mounted on a double row of needle bearings extending the complete length of the roller hub. The worm (the part attached to the end of the steering column shaft) is mounted on two tapered roller bearings. Obviously the object of the new design is to reduce wear within the unit and lessen the effort required to turn the steering wheel.

As noted above initial production will be concentrated upon *Clipper* models, which will be of 4-door sedan type. As soon as practicable this model will be followed by the *Packard Six* and *Eight*, and the *Super 8*, the latter in standard and de luxe types. Production is intended to be built up to a yearly rate of 220,000 cars.

Pontiac. While the changes made for 1946 are largely in the line of refinements, those which have been made should improve the life of the car and reduce maintenance expense, since as in other cases, they appear to be the result of service experience with previous models.

As with other G. M. cars, restyling includes a new grille, the longer front and rear bumpers, and relocation of the parking lamps

(above headlamps). Car colors adopted for 1946 are black, maroon, blue, gray, smoked pearl, a two-tone gray, and a two-tone blue. Interior hardware is chromium-plated (replacing plastic finish formerly used) and a so-called "fiddleback" walnut finish is used for the instrument panel. Interior trim, for first production at least, is to be in a solid neutral tone fabric with a wide shadow-panel below, which is parallel to the door trim panels.

Changes which should improve the service life of the body are similar to those made on *Buick* cars. The underside of the floor, inside surface of door panels, body sills, etc., are given a sprayed-on coating of corrosion resistant material. The doorsill plates are now of aluminum. More and better retention of weatherstripping will be welcomed by owners who have had trouble with loosening of the strips in the past. Moldings are now of brass or stainless steel, chromium-plated; the chromium coating is said to be greater in thickness than previously used, so that its durability should be much improved. The headlamp dimmer switch has been made dustproof, while the horn button wire in the steering column is enclosed in protective tubing. The enclosure of the horn wire should eliminate the embarrassing "automatic" blowing of the horn which has sometimes occurred with former models.

Engine

While the sizes of the 6- and 8-cylinder engines remain the same as before, there are numerous minor refinements that are worth while. Most of the changes are of the "unseen" variety, but nevertheless significant to the mechanical-minded owner.

About the only change noticeable on careful examination is the adoption of an intake manifold which is parallel to the ground level rather than to the centerline of the crankshaft of the engine. More even distribution of the fuel to the engine cylinders, especially when the engine is cold, hence smoother power output with less tendency toward misfiring, should be a result. The use of a combination of mechanical and vacuum control of metering the fuel in the carburetor (mechanical control only, in 1942 cars), should also give better starting performance and smoother acceleration, since the mixture is slightly richer than formerly. Fuel consumption may be increased a little. The manifold heat control valve bushing is now of stainless steel so that sticking of the valve should not occur, and thus the control of heat to the fuel mixture should be more in accord with warm-up requirements. The accelerator pedal is mounted on a hinge instead of a ball and socket, so that action of the pedal will be more stable.

Internal engine changes include the use of shot-peened piston pins (for greater surface hardness and strength). The water distribution tube inside the cylinder block is now of brass instead of coated steel, so that corrosion of the tube with consequent disruption of cooling water flow and possible localized overheating, should be eliminated. The exhaust valve guides have deeper counterbores (at upper ends) so that any tendency toward valve sticking will be reduced. A change has also been made to increase the life of the water pump shaft. Thicker sheet metal is now used in the muffler shell, and the tailpipe is coated with aluminum both inside and out. Attaching bolts are also given a double coating to prevent corrosion. Which makes some engineers believe car owners would be willing to pay just a little more (which is all it need cost) for an exhaust system of stainless steel, so that the exhaust pipe, tailpipe, and muffler would last the life of the car. Truly, many service stations and garages would lose plenty of replacement business, but unless cars are again to be traded-in after a year or two of service, leaving the replacement to the second owner, the minor increase in cost would seem well worth while. And with poorly built, short-lived mufflers goes the constant danger of carbon monoxide poisoning, which annually causes many deaths due entirely to leakage in exhaust systems.

A change in the clutch used with the 6-cylinder engine should increase its service life. The clutch disc diameter has been changed from 9⅛ to 9½ inches, making the size the same on both 6- and 8-cylinder cars.

Chassis

Pontiac has adopted the wide-base wheel rims for 1946 (see comments on *Buick*). The rim width will be 5 instead of 4½ inches. Tire size is 6.50-16 inches. A change to reduce wear and possibly add to car stability is the use of thicker material for the rear spring brackets (to prevent looseness of spring bolts). The battery retainer is of heavier steel, given two coats of enamel to reduce corrosion damage by battery acid.

Pontiac production plans call for introduction of the 122 inch wheelbase chassis, which will be available with either the 6- or 8-cylinder engine. Two-door types will first be produced, followed by station wagons, then 4-door types, with convertibles to come early next year. Output planned for next year is to reach the rate of 550,000 cars per year by early summer. A plant expansion program costing 3 million dollars is contemplated to assist in obtaining this production schedule.

Studebaker. Although the number of changes indicated for 1946 *Studebaker* cars, other than restyling, is small, they contribute to improved performance and riding comfort, as well as to better intrinsic quality. Aluminum pistons are again used, a return to pre-war design. Interleaf friction in chassis springs has been decreased by tapering the leaf ends and by the adoption of full-length oil-impregnated inserts between spring leaves. Leaves are shot-peened as for 1942 production.

Some items previously considered special equipment, are now offered as standard. Standard items include de luxe steering

wheel, automatic dome lamps on all body types, automatic rear compartment lamp in 4-door models, dual sun visors, dual windshield wipers and two front door arm rests. Bright metal trim is used for sill strips, windshield and window moldings. Interiors are specified as of wool Bedford cord. The rotary door latches previously featured will be continued. The battery has been increased to 15-plate size. The "hill holder," overdrive (for more gasoline mileage at the higher speeds) and "Climatizer" (forced air circulating system) will be available as extra equipment.

There will be four body types in the *Champion* line, a business coupe, a close-coupled coupe called a "double-dater," 2- and 4-door sedans.

In the restyling of the car the most noticeable change in the forward end is the use of vertical grille guards mounted on the front bumper which have prominent "knoblike" or rounded protuberances where the guards meet the bumper. In addition to contributing toward making the front end appear more massive, the "knobs" are likely to have good protective value. It is possible that many a car owner will hesitate to back his car anglewise into the front end of a *Studebaker*, realizing that his fenders may come into contact with the knobs.

The Post-War "Jeep."

Since Willys-Overland is now offering the "Jeep" for post-war use, some information concerning it should be of interest to CR readers. Since enough has been said as to its accomplishments in the war, the following will deal with the Jeep's probable field of use for consumers and some of its technical features.

To "keep the record straight," the car was originally called the "Peep," the term "Jeep" being applied to the next larger four-wheel drive vehicle. However, and due possibly to the relationship in name to the fabulous creature of comic strip fame, the name "Jeep" became firmly attached to the smallest of the wartime vehicles of this general type.

So remarkable has been the fame of this car that it recently was necessary for its designers to sue another company claiming origination of the vehicle. According to our recollection, the car was designed largely by D. G. (Barney) Roos, a past-president of the Society of Automotive Engineers, who is well known to automotive engineers for his ability to come up with what is needed in an emergency.

While a few of the post-war Jeeps may be sold for ordinary civilian use, it is our belief that the driver of ordinary driving habits and customs will have little comfort and service from such a car.

As was previously noted in our brief discussion of the Jeep in the Annual Cumulative Bulletin, the Jeep will not replace the tractor and is expected to have a limited application on farms. Its usefulness will be mostly on very small farms as a utility car, where speeds are relatively high and loads light, or on large farms which can afford to own and operate several cars, trucks and tractors; in such use, the Jeep may occupy a definite field as a handy auxiliary vehicle. This field evolves from the characteristics of the vehicle, namely, its optional two- or four-wheel drive, weight, load capacity and speed range. Where a vehicle needs to serve both as a road vehicle and a light tractor, regardless of such factors as riding comfort, protection from the weather and such, it should serve well. The four-wheel drive gives the Jeep the ability to negotiate poor roads (or even to go where none exist) with little difficulty. In so doing it may tow a wagon or a farm implement of most any kind. On good roads (two-wheel drive) it can travel at high speed (over 60 m.p.h.) while carrying a load of farm produce, or what have you, although the carrying space available is small. (Very steep grades can be climbed; has exceptional speed capacity on rough roads.) On good roads using only the two-wheel drive, the Jeep is claimed to deliver up to 18 miles per gallon of gasoline.

While the rough-riding qualities of the wartime Jeep are notorious, the peacetime version has been given attention from this standpoint. It is understood that the springs have been softened and the seat cushioning improved. Nevertheless its short wheelbase (80 inches) is a handicap that cannot be entirely overcome by any modification in springing while its load capacity and ability to negotiate rough surfaces are retained. (Spring rate [stiffness] *must* be fairly high to carry specified loads and to give stability to the chassis.)

The engine of the peacetime Jeep is essentially the same as that of the wartime model, a 4-cylinder type, with a rated power of 60 h.p. at 4000 rpm. Compression ratio 6.48 to 1. (Bore 3.12 by stroke 4.37 inches, providing 134.2 cu. in. piston displacement.) Aluminum pistons. The crankshaft has 3 main bearings 2.33 inches in diameter. It is of rugged proportions, with relatively large bearing areas.

Additional specifications for original model are: Front spring 8 leaves, 1.75 inches wide by 36.25 inches long. Rear spring 1.75 inches wide by 42 inches long. Frame 122.75 inches long, 29.25 inches wide, with a weight of 140 lb. Major panels of body are of 18 gauge steel.

The transmission control consists of two levers, one for gear-shifting, the other for engaging the drive as required to provide either 2- or 4-wheel drive. Six forward and two reverse speeds are available. It is understood that the same arrangement is continued in the civilian model.

One of the major drawbacks of the post-war Jeep is its comparatively high price, which will make it a questionable purchase for the very small farm and for many others as well. The OPA approved price, delivered New York City, with only the essential extra equipment such as top, front and rear seats, and spare tire is around

$1300. (Complete with all possible extras, $1546.) At these prices the Jeep is unlikely to offer any serious competition either in the passenger car or the tractor market. (Small tractors far more suitable for the specialized needs of farm work will be available for $200 to $400 less than the Jeep without extras.) Prices of government surplus Jeeps to state and local governments are also high. Vehicles in substantially new mechanical condition, including some that have been rebuilt, have been offered on an *"as is—where is"* basis at $782 for 1943 to 1945 models, $695 for 1942 models, and $598 for 1941 models.

Those interested in further information on the Jeep should obtain Bulletin No. 445, "The Jeep as a Farm Truck-Tractor for the Post-War Period," by L. J. Smith and O. J. Trenary, free, from State College of Washington, Agricultural Experiment Station, Pullman, Washington.

Painting the Fingernails—

with ratings of 10 brands of nail lacquer

PAINTING the fingernails to make them bright and shiny is a fashion that is reported to have first made its appearance in this country around 1919. It seems that the ladies grew tired of the effort involved in buffing their nails with powder, and some enterprising chemist, no doubt, conceived the idea of selling them a collodion solution that could be painted on with less trouble. The first preparations were of the clear type. Then came the very light tints, followed by the vivid, opaque shades of red commonly used today, which are considered an important fashion accessory.

It is interesting to contrast suggestions in various recent advertisements that the truly chic woman will match her fingernails to her lips, or apply the proper shade of lacquer to her nails to enhance the color of her gown, with the attitude of earlier times in such matters. One researcher in the customs of milady's toilet, writing in 1873, pointed out that while ladies of Oriental nations commonly dyed their nails and in many savage tribes both men and women followed the same practice, "Among Western Europeans, and Americans, white and regularly formed nails are alone esteemed." Times have indeed changed.

Present day nail lacquers or enamels are—technically speaking—a great improvement over the early collodion-acetone mixtures. The newer lacquers are complex mixtures of nitrocellulose, plasticizers, resins, solvents, and coloring materials. The problem of formulating a high-quality lacquer of this type that is satisfactory in performance requires considerable technical and manufacturing skill and control. It has been estimated that three or four large companies make most of the lacquer that is sold under a wide variety of brand names, distributed by many different firms.

The technical details of proper formulation of nail lacquer are of more interest to the chemist than to the woman making her selection at the cosmetic counter. Briefly, nail lacquer must be flexible enough to withstand flexing of the nails; hard enough to withstand the abrasions incurred in typing and housework; and sufficiently water resistant to withstand for a time washing in hot soapy water, as in washing dishes and clothes, without change in gloss, color, or appearance. Drying time, which is in part determined by the type of solvent used, is also important. One expert holds that the ideal lacquer should dry smoothly and evenly in a matter of seconds—at most, a minute. To achieve this effect, it is necessary for the manufacturer to select the solvent in the lacquer with great care.

Sometimes when a lacquer dries too fast, it produces a white cloudy effect, known as blushing. It has been suggest-

ed also that certain solvents that are miscible with water have a tendency to blush, particularly in hot weather. Ethyl alcohol is considered one of the worst in this respect. This is a technical problem, however, and is of little interest to the cosmetic user except that it may serve to explain why a particular nail lacquer behaved in such fashion. The clear lacquers are the ones that are the most likely to give unsatisfactory performance in this respect. Indeed, one reason the highly colored or so-called creme enamels were developed was to eliminate the difficulty and also to provide a more opaque cover for nail blemishes. The creme polishes also are more easily applied since any variation in the thickness is not so apparent as with the clear type.

The pigments used to color nail lacquers must be certified for safety to health by the Food, Drug, and Cosmetic Administration. They should be non-staining and produce a maximum gloss. According to one trade expert, too much pigment in the finished product adversely affects the wearing quality of the enamel.

The top coat sealer or foundation lacquer that some firms have introduced to be applied first to the nails, to prevent chipping of the enamel which is next applied, is essentially a clear nail lacquer containing a limited amount of thinner to give the colored second-coat faster drying qualities and to act as a binder between the nail surface and the colored enamel.

The brush is a most important factor in the smooth application of enamel to the nails. One trade expert recommends that the brush hairs be 7/16 to 1/2 inch long. The brush should be soft and clean. The tuft should be well fastened so that no hairs come loose and become fixed in the enamel coat on the fingernail, a most annoying occurrence.

One question that frequently arises is whether or not nail lacquer is a safe cosmetic to use. According to a study in a 1944 issue of one medical journal, the reports of cases of allergic eczema due to contact with nail polish have increased in number in recent years. It is possible that this increase may be due, however, to wider use of this cosmetic rather than to any increase in its potentially harmful qualities. In this same study, the most frequent trouble noted was dermatitis of the eyelids, although in other cases the chin and neck were also involved, due to rubbing, touching, or scratching them with the fingers or nails. The researchers found that women who were sensitive to some ingredient in nail polish but who nevertheless insisted on using it could be accommodated by trying out several brands, some of the colorless and some of the pigmented type. They suggested that it was likely that some brand could be found which did not cause an allergic reaction. The list of cases of dermatitis caused by the use of nail lacquer is long, but the cure is a simple one. Just eliminate the use of nail polish entirely.

The main function of the fingernails is to protect the tips of the fingers and the toes from injury. At one time the nails had a role as weapons for protection, but those days have pretty much disappeared. The horny plate of the nail consists chiefly of a substance known as keratin, essentially the same material as that constituting the hair. It grows out in a continuous process from the matrix or nail root. The nail plate itself has no blood vessels or nerves and is entirely dependent for its growth and nourishment on the matrix—a point to keep well in mind in evaluating certain advertising claims. Beneath the nail sheath lies the nail bed of flesh tissues which contains both nerves and blood vessels.

At the base of the nail plate is the "half-moon" or lunula, lighter in shade than the rest of the nail because the plate is more opaque and because the underlying tissue at this point has fewer blood vessels. Around the nail at the base and sides is skin tissue known as the "cuticle." The average nail growth has been estimated at approximately 1/32nd of an inch per week. Approximately eight months add one inch. According to one authority, children's nails grow faster than those of adults; nails grow faster in summer than in winter.

It must be noted that the nails, like the eyes, the skin, the hair, and other parts of the body, are an index of bodily health. Doctors in some cases are said to deplore the use of nail lacquer as it hides the nail markings, an important aid in diagnosing certain ailments. Nutritional deficiencies, for example, may at times show up in ridges and furrows, flaking and splitting at the ends of the nails. The effect of a severe illness or severe shock may show up as corrugations running crosswise. Certain ridges are observed in cases of arthritis and curvatures in cases of anemia. Systemic disorders,

such as hypothyroidism, hyperthyroidism, and gout, for example, may cause the nails to be dry and easily split.

According to one authority, a condition known as "egg-shell nail" in which the nail is soft and semi-transparent and bends and splits easily at the end has been associated with arthritis, peripheral neuritis, and other diseases. Thickened nails are also a symptom in some cases of nutritional deficiencies, injury, and certain diseases.

The common complaint of brittle nails may be due to too frequent use of soap and water or use of nail polish and its attendant removal by polish removers, which are solvents that readily extract the natural oils from the cuticle and nails. Cold weather is also reported as a cause of chipping and breaking of nails. General toning up of bodily health may remedy some of these difficulties.

In certain cases frequent application of oil or an oily cream, preferably one containing lanolin, will make the nails and the surrounding cuticle less rough and dry. To expect more than superficial lubrication by such procedure, however, is to exhibit a belief in magic that is out of place in these scientific days. The Federal Trade Commission took action some years ago against the distributors of a preparation called *Nailife*, which was essentially a wax paste consisting of lanolin, wax, perfume, and coloring, for claiming to be "The perfect nail food for dry, brittle, splitting or soft nails" and a "scientific preparation" that would "transform irregular broken nails into well-formed symmetrical ones." The sum and substance of the FTC's findings were that such a preparation had no value as a nail food, since the nails cannot be fed by external applications of any such product. Furthermore, according to the Commission's experts, the use of such a preparation would not transform irregular, broken nails into well-formed symmetrical nails. The most that would be accomplished by application of the preparation was the formation of a protective covering for the nails.

It isn't really necessary to use nail lacquer to enhance the appearance of the fingernails and some perhaps will raise the question whether the brilliant red shades most frequently applied are an improvement over the delicate shell pink of a well-kept healthy fingernail. Since buffers are readily available in most five-and-dime stores, a healthy sheen may be acquired by applying a pinch of nail powder (which usually has a base of tin oxide and silicon dioxide) and applying the buffer diligently from top to bottom. Applying the buffer in this way rather than from side to side makes certain that the entire nail is polished and not just the center. It is important to lift the buffer with each stroke to avoid overheating the nail by the friction. The stimulation from the buffing is considered to have beneficial effect on the health of the nails as well as their appearance.

Before starting the manicure, remove all old nail polish and shape the nails with a flexible file. Then soak nails thoroughly as the professional manicurist does and gently push back the cuticle with an orange-wood stick. Most experts advise cutting uneven or stubborn cuticle, although it is considered permissible to use nippers or nail clippers. Occasionally a white paste or pencil is used under the edge of the nails. Such pencils are usually composed of some comparatively harmless pigment such as zinc peroxide combined with zinc oxide or titanium oxide, in a cream or paste base.

Standardized tests for evaluating nail lacquers have been worked out by United States Testing Company, and 10 brands of widely distributed lacquers purchased by CR were tested in accordance with these procedures. According to a Testing League Bulletin of the company named, a desirable nail lacquer should have a high luster and a hard but flexible surface. The luster or gloss values may be determined by measurements made with a Hunter Multipurpose Reflectometer. Film flexibility or brittleness is determined by applying the lacquers to aluminum alloy strips and allowing them to dry for 24 hours, then bending sharply through an angle of 180 degrees. Film durability is tested by applying the fingernail lacquer to standard metal plates and then abrading with a mild abrasive material using an abrasion machine. The loss in weight after 1000 cycles of wear is recorded and compared. To determine the length of time it takes polish to dry, it is applied to glazed paper, and finger-tested at intervals. Resistance to scratching may be evaluated by using a standard scratch test hardness-measuring instrument. This is an important factor in the lasting good appearance of nail polish and is thus an important measure of durability.

Since all brands tested were

found to have satisfactory flexibility, no reference to this factor is given in the listings. Prices shown do not include Federal excise tax.

A. Recommended

Cutex (Northam Warren Corp., 50 E. 57 St., New York 22) 1/3 fl. oz., 10c (30c per fl. oz.). Color, *Black red.* Luster, best of brands tested. Film durability (wearing quality), comparatively poor. Drying time, 1.5 min. Scratch resistance, excellent.

Dura-Gloss (Packed by Lorr Lab., Paterson, N. J.) 5/16 fl. oz., 10c (32c per fl. oz.). Color, *Blackberry.* Luster, excellent, second best of brands tested. Film durability (wearing quality), excellent, best of brands tested. Drying time, 1.8 min. Scratch resistance, poor.

Revlon (Distributed by Revlon Nail Enamel Corp., 125 W. 45 St., New York 19) ½ fl. oz., 60c ($1.20 per fl. oz.). Color, *Mahogany.* Luster, good, third best of brands tested. Film durability (wearing quality), good, second best of brands tested. Drying time, 2.5 min. Scratch resistance, excellent.

B. Intermediate

Chen Yu (Associated Distributors, 30 W. Hubbard, Chicago 10) ½ fl. oz. lacquer, plus ⅛ fl. oz. *Lacquerol,* 75c (combination, $1.20 per fl. oz.). Color, *Mandarin red.* Luster, fair, but one of the three lowest among the brands tested. Film durability (wearing quality), comparatively poor. Drying time, 1.8 min. Scratch resistance, excellent.

Miraglo (Distributed by M.V.C. Labs., Toledo, Ohio) ⅜ fl. oz., 10c (27c per fl. oz.). Color, *Victory red.* Luster, good. Film durability (wearing quality), good. Drying time, 3 min. —one of the three slowest in this respect of brands tested. Scratch resistance, good.

Peggy Sage (Distributed by Peggy Sage, Inc., 50 E. 57 St., New York 22) ½ fl. oz., 60c ($1.20 per fl. oz.). Color, *Dark fire.* Luster, fair. Film durability (wearing quality), lowest of all brands tested. Drying time, 2 min. Scratch resistance, excellent.

Protector Nail Plastic (Distributed by Protector Products, Inc., 80 Fifth Ave., New York 11) ⅜ fl. oz., 10c (27c per fl. oz.). Color, *Midnight red.* Luster, good. Film durability (wearing quality), good. Drying time, 2 min. Scratch resistance, poor.

* * *

The following brands did not perform so well in the various tests as those immediately preceding. Their performance, however, was not so poor as to render them unacceptable.

Elizabeth Post (Distributed by The Lander Co., Inc., 200 Fifth Ave., New York 10) ½ fl. oz., 10c (20c per fl. oz.). Color, *Java bean 2.* Luster, one of the three lowest of brands tested. Film durability (wearing quality), good. Drying time, 3.5 min., the slowest in this respect of all brands tested. Scratch resistance, one of the poorest of all brands tested.

Glazo Manicure Polish (Distributed by The Glazo Co., Inc., East Rutherford, N. J.) ⅜ fl. oz., 20c (32c per fl. oz.). Color, *Emblem red* and *Red-o-red.* Luster, one of four lowest of brands tested. Film durability (wearing quality), one of three lowest of brands tested. Drying time, 3 min. Scratch resistance, poor, one of three lowest of brands tested.

La Cross (Distributed by Schnefel Bros. Corp., 682 S. 17, Newark 3, N. J.) ½ fl. oz., 60c ($1.20 per fl. oz.). Color, *In The Red.* Luster, one of the three lowest of the brands tested. Film durability (wearing quality), good. Drying time, 3.3 min. Scratch resistance, one of the poorest of brands tested.

Correction to Comments on Diaperwite

A Washing Powder Reported in the September 1945 Bulletin, page 25

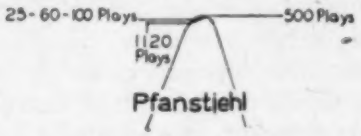
CR regrets very much that a serious error was made in the analysis of *Diaperwite*, a product recommended for washing of diapers, which was discussed on page 25 of CR's BULLETIN for September 1945. We are glad to assure our readers that *Diaperwite* is *not* open to the objections and criticisms which appeared in the article referred to.

Because of the mixture of alkaline sodium salts present in the product, it presented unusual difficulties in analysis. Extended laboratory work (results of which will be reported briefly in a later BULLETIN) has been required in order to distinguish clearly the proportions of the several alkaline sodium salts that are present in the material.

A major consideration, however, is in respect to the pH, which is a measure of alkalinity and considered to be a dependable basis for judgment of any harmful effect of a detergent on hands and fabrics. The pH of *Diaperwite* as dissolved in water for washing was about the same as that of a soap solution; whence, as it now appears, *Diaperwite* would have no more effect on users' hands or fabrics than would attend the use of soap for the same purpose.

Phonograph Needles of "Precious Metal" Alloys

THE needles advertised as having precious metal alloy tips represent an attempt to give increased convenience to users by providing for a greater number of playings than the steel or chromium needles (reported on in CR BULLETIN, December 1945). Such needles also have an important use with automatic record players, where a considerable number of sides must be played in one sequence, without possibility of changing the needle during the series. This type of needle is sometimes referred to as "semi-permanent," although multi-play would be a more accurate description of its capabilities.



Magnification 21 X

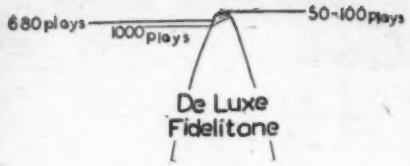
The points of the *Fidelitone* needles, according to a letter from the manufacturers, Permo Products Corporation, are an alloy of ruthenium and osmium, metals in the platinum group. An engineer of the company claims an advantage for this alloy in the presence of a semi-plastic component which is said to permit the needle tip to take the form of the groove wall of the record to conform to pick-up pressure and tracking curve. He asserted that the alloy is the same as that used on the tips of certain fountain

Magnification 21 X

COMPARATIVE WEAR RESISTANCE OF VARIOUS "PRECIOUS METAL" ALLOY NEEDLES

[*Note that this wear test was made on the same make of record and the same recording throughout the test. The number of playings permissible under these artificial conditions might be several times greater than when playing records of different makes successively.*]

Name	Price	No. of Playings, Nominal or Claimed	No. of Playings at which Needle Showed Excessive Wear	No. of Playings at which Record Showed Damage	Condition of Record at End of Run (See needle tip drawings.)	Surface Noise
Pfanstiehl (Metallurgical Div. Pfanstiehl Chemical Co., Waukegan, Ill.)	$1.50	4000	500	Approx. 150	Badly worn	Noticeable
Fidelitone (Permo Products Corp., 6415 Ravenswood Ave., Chicago 26, Ill.)	.50	1000	150	" 150	Worn	Noticeable
Fidelitone De Luxe	1.00	5000	100	" 150	Worn	Slight
Emerson Emerson Radio & Phonograph Corp., 111-8th Ave., New York 11, N.Y.)	1.00	4000	70	" 150	Fair	Slight
Jensen Bent-Shank (Jensen Industries, Inc., 737 N. Michigan Ave., Chicago 11, Ill.)	1.00	5000	25	" 150	Fair	Slight

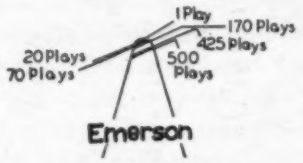


Magnification 21 X

pens to give a free, smooth-sliding motion of the nibs. The aim is to produce resistance to abrasive wear, rather than hardness. *Pfanstiehl* advertising also claims to have a point of an alloy of "rare and precious metals more costly than platinum."

One of the chief arguments in favor of the long-lived metallic alloy needles is that there may be little or no danger of their chipping and cracking, two difficulties that have been reported as occurring with some sapphire needles. As a writer in The American Record Guide, May 1945, pointed out, a sapphire needle may chip unexpectedly and the fact may not be immediately apparent, with the unhappy result that the groove of the record played with such a needle will be literally chewed up and rendered unplayable.

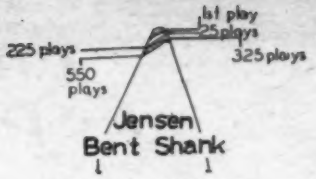
Several of the well-known semi-permanent needles were included in CR's series of tests of needles. As was the case with the steel and chromium



Magnification 21 X

needles, the needles were used in an Astatic type L-40-A pick-up giving a needle point pressure of 1¾ ounces, and were played on *Victor Red Seal* record 11-8762, *American Salute*, Boston "Pops" under Fiedler.

As the tabulation of the findings with respect to wear of needles shows, a needle which has a long life will at the same time be hard on records. Of the group, the *Pfanstiehl* needle resisted wear best but also was the most damaging to the record. It also produced surface noise bordering on an objectionable amount. Shadowgraphed reproductions of the outlines of the actual needles at different stages are shown for comparison of the shapes and amount of wear of the different precious-metal needles in this group. A new record was used for each needle.



Magnification 21 X

Table showing comparative performance of 5 "precious metal" needles appears atop of page 20.

A New Carbona Cleaning Fluid

CONSUMERS who have been buying *Carbona Cleaning Fluid* for years when they wanted a carbon tetrachloride or non-burnable type of cleaner and spot remover for home or office use, may be surprised after buying a bottle now to learn that they have bought *Carbona Inflammable Cleaning Fluid*. *Carbona Cleaning Fluid* has long been advertised as non-flammable ("100% Unburnable and Non-Explosive") and the name *Carbona* has thus tended to become associated with the idea of non-flammability over a period of years. The new product is not carbon tetrachloride, however, but a petroleum naphtha apparently of a type equivalent to the so-called Varnish Makers' and Painters' naphthas. The flammable (and explosive) nature of these naphthas can be judged from the fact that they make excellent cigarette lighter fluids and are akin to gasoline as they can be used as motor fuel for an automobile engine.

The two *Carbonas* are very different chemically, but the brand name *Carbona* is common to both. It is true that the labels of the bottles are different, but not nearly so clearly differentiated as they ought to be—though the manufacturer no doubt thinks the distinction should be apparent to consumers. Manufacturers of trade-marked items, however, often have reasons for not wishing altered labels to be *too* dif-

ferent from an earlier form, since they have built up reputation and good will on previous labeling, in part, and anything which they do to emphasize differences from a previous product might tend to undermine the "good will" and buying customs acquired from previous expensive and widely disseminated advertising.

A subscriber warns that it has become common practice in schools to perform simple experiments with *Carbona* (old-style) to illustrate the action of the carbon tetrachloride (*Pyrene*) type of fire extinguisher. If a student, who will not yet have learned to read his labels with particular care and attention to details, were to try the same experiment at home in imitation of the teacher, but with the wrong type of cleaning fluid, the results could be most disastrous.

CR has from time to time commented that a brand name should mean only one thing; thus there should be only *one* composition of a product signalized by the brand name *Carbona*. Any new product should mean a new name, and a new name distinctly different from the previous one, so that even a careless or unthinking user would not be misled.

It is decidedly unfair to the consumer when the manufacturer can abandon a formula upon which he has built good will and start out fresh with an entirely different product which, so far as the consumer can know from its *brand name* is the same thing as was found satisfactory and useful (or the reverse). The layman is helpless against this type of marketing procedure in the hands of manufacturers and distributors. Even professional experts cannot always know when a product has been changed, without analyses that are costly and time-consuming, and sometimes economically impracticable to make for any relatively inexpensive product.

Since the name *Carbona* suggests carbon tetrachloride, which was the composition of the non-flammable cleaning fluid, it would only be fair to the consumer-buyer that any new brand name selected should be one suggestive of gasoline or naphtha, the type of grease solvent material represented in the new product.

Off the Editor's Chest

(*Continued from page 2*)

purchase of a separate muffler, brought the cost up by an additional $20, or 25% approximately. It might be noted in passing that when business firms have been guilty of such misrepresentations in advertising, or required advance payment for goods not as represented, the Federal Trade Commission and Better Business Bureaus have gone to work on the problem, or taken legal action to correct the situation.

In addition to lists of commodities which have fixed prices, the Office of Surplus Property sends to those interested "Bid and Contract Forms" which list briefly the items and quantity available and provide the proper form to be filled out and returned with a bid on the item or items that the duly accredited prospective purchaser wishes to acquire. Theoretically these bids are to be made after inspection of the property, but except for large firms with ample staff and funds for such work only those located near by can avail themselves of such an opportunity, and then only when the item is one involving a substantial outlay. An automobile sale, for example, was scheduled on November 26, 1945, in Kansas City, Missouri, for a number of trucks, automobiles, and truck trailers which could be inspected several days previously at Fort Riley, Camp Funston, and Camp Crowder. The catalog listing the items available runs to some 50 pages but obviously a small businessman or veteran who needed a single truck could not afford to make the trip from any distance for inspection and sale. There have been cases, too, where prospective bidders have turned up at sales of motor trucks and similar equipment, and been informed they could not buy unless they were "recognized dealers," in a position to buy not one or two items, but a whole "lot" consisting of hundreds. And the government surplus agents seem to have complete discretion to decide, perhaps with the needs of business friends in mind, how large is a "lot."

There is already some suggestion that favored buyers find it easier than others to make desired purchases. One congressman from Ohio reported two cases involving sale of wire where notices of its availability were received early by certain buyers, but by the less favored ones, in the same locality, nine days after the sale. He also reported that dormitories at Plum Ordnance Works which had cost the government—and the taxpayers—over $121,000 had been quietly sold for $4500. The favored buyers that have so far come to public notice, however, are the government departments themselves. Under the rules set up by the Surplus Property Act, federal bureaus have first choice of any surplus items. As one news writer pointed out, one might logically expect that with

the war nominally over government bureaus would begin to shrink, and would be selling equipment, not buying it; on the contrary they have bought or earmarked for their own use large quantities of office equipment, desks, typewriters, filing cabinets, and adding machines designated as surplus. In at least one case it was learned that all of the *desirable* items of typewriters and bookcases were as a matter of course preempted by various government agencies, so that the only things left for business or war-veteran buyers would be those in badly damaged or unworkable condition—thus, in effect, only junk dealers or repairmen buying the items as a source of spare parts would be warranted in bidding on the items at all—but no one would ever be able to learn from the announcements of the sales that he would be wasting his time and effort in trying to buy on the basis of the government's advertising.

There is very little indication at the present time that the taxpayers whose money paid for the tremendous stocks of nearly everything that has been or could be manufactured will have an opportunity to buy back any considerable amounts at a reasonable price or, perhaps, at any price. Dealers who buy the items at junk prices customarily put a very high mark-up on the articles. Thus all along Canal Street, near Broadway, in New York City, electrical and mechanical devices of all sorts sold to dealers (perhaps in some cases by manufacturers whose war contracts have been canceled) almost at junk prices are resold by them at their regular market value as used items (e.g., small motors, relays, switches, etc.).

The present disposal system is so cumbersome that, unless a more business-like approach is instituted or forced upon the Office of Surplus Property, new products will be readily available before the surplus items are really being disposed of in good volume. No doubt these goods will be packed away in government warehouses until some future period of shortage when there will be some demand, though warehouse capacity is completely exhausted in many areas and valuable radar and other equipment has been allowed to deteriorate by millions of dollars by being allowed to stand for months on end in the rain and weather. One enterprising mail-order house, for example, listed in its last year's catalog horsedrawn ambulances of an earlier war (the Spanish-American), only recently released as surplus items, and recommended them as excellent farm wagons. About all that ultimate consumers have so far been permitted to purchase were carrier pigeons, which in October 1945 were offered in lots of 5 pairs for $25, certified check or money-order to be sent to the Office of Surplus Property, Department of Commerce, Washington, D. C.

A Good Bottle Closure Returns to the Market

O-Kap Bottle Closures (Meco, Inc., 2048 N. 41 St., Milwaukee), 10c, are again being sold in some ten-cent stores and hardware stores. (Some of the unsatisfactory caps reported in the July 1943 BULLETIN continued to be sold during the war, but the manufacturers of *O-Kap* converted their plant to production of military supplies early in the war.)

Of several bottle caps tested by CR and reported on in the BULLETIN mentioned, the *O-Kap* was the only one found to be satisfactory. This cap works on a toggle-lever principle, something like that used on the old-fashioned "pop" bottles before the days of the metal crown caps, and uses a sound sealing principle which gives effective sealing that will retain pressure. (When a cap does not seal strictly tight, the contents of a bottle eventually lose their "pep," become flat, and so are often thrown away.) Since the larger sized bottles are less expensive per pint, the householder who often uses carbonated beverages and does not insist upon having the maximum possible amount of "fizz" in every glass, will often find it worth while to have on hand re-usable caps that effectively reseal the bottle, so that contents not used up at once will retain their gases.

Steam Irons—

Are They Essential Laundering Equipment?

THIS study of steam irons was carried out in order to settle a question that is of considerable importance to homemakers. CR's investigation was designed to determine as clearly as possible what are the advantages and disadvantages of these irons and what usefulness they may have in the average home. The following summarizes the principal conclusions reached in this study.

Advantages	Disadvantages
1. Good for steam-pressing of woolen garments.	1. Unsatisfactory for ironing rayon, cotton, and linen fabrics.
2. Good for steaming velvets and pile fabrics.	2. Unsatisfactory for ironing puffed sleeves, and other small garment areas.
3. Useful for pressing seams when dressmaking.	3. More expensive than conventional irons.
4. Useful for ironing some starched articles such as curtains, which do not require much moisture or heat.	4. Heavier and clumsier than all but the heaviest conventional electric irons.
5. Steam irons of the type that can be operated either with or without steam at will, may, if desired, be used for all types of ironing.	5. Storing mineral-free (soft) water and filling the iron with water are inconvenient. The filling process may involve some hazard of scalding the user.

SINCE the first steam iron for home use was brought out some eight years ago, the number of brands manufactured and sold has increased; the number of pro-and-con discussions about the merits and practical usefulness of this appliance have doubtless increased also. Certainly there have been improvements made in the design of steam irons. An important advance is that some new models may be used as a conventional dry iron as well as a steam iron—an obvious advantage, since there are times when dry ironing is to be preferred to pressing with moisture. The first steam irons dampened everything they ironed, and they were clumsy and heavy. The steam irons reported in this test were also considered heavy and somewhat clumsy, but some new irons not yet on the consumer market or widely available are considerably improved in this respect.

The most attractive sales feature claimed for steam irons is that they do away with the task of dampening clothes before ironing. While this is not a tiresome task, it does take time and calls for some skill and care; the ironing will not be satisfactory if too much or too little moisture is added, or if the moisture is unevenly applied. Optimum moisture content for different fabrics is said to be:

For Linen.....33 to 40%
" Cotton.....30 to 35%
" Rayon.....30 to 40%

While the figures given will have no direct use for the housewife, who cannot use laboratory facilities in ironing, they are, however, of interest in indicating the need for adjusting the moisture content so far as practicable to the material being ironed. (Home economists and others interested in ironing tests may wish to consult the study by Potter and Bass in Virginia Polytechnic Institute Bulletin 307, March 1937.) The housewife will be glad to know that she can iron satisfactorily with a wider range of moisture content on rayon fabrics than on cotton.

Potter and Bass found that sprinkling was a satisfactory method for moistening cotton and linens but that the best ironing results were secured when completely wetted material was allowed to dry to its optimum moisture content before ironing. Rayon should not be sprinkled for ironing because of the appearance of water spots when this method is used.

Unfortunately, steam irons do not take care of the problem of dampening clothes. *They do not supply sufficient moisture* for removing wrinkles from linen

and cotton fabrics, and *they are not satisfactory for ironing rayons*, which, as practical tests show, are left with wrinkles and a dull finish, by steam-ironing. One acetate rayon ninon fabric was left with a prominent moiré effect after steam-ironing, and it is said that in a number of instances use of a steam iron has changed the appearance of crepes of various types.

Additional moisture can be applied to heavy linens and cottons by sponging, but there are disadvantages to this. For example, the finished piece will not infrequently have a spotty appearance, and, of course, the process is time-consuming. Moreover, while the pieces are being sponged, the steam of the iron is being exhausted.

Both the irons tested produced steam for about the same length of time after steaming began. This time was about 25 minutes (at 118 volts).

The design of the irons themselves has disadvantages for certain kinds of ironing. The holes from which the steam issues are in the front of the sole plate of the irons tested (see Figure 1). When the iron is moving in a forward direction, the fabric is steamed, then ironed. On the backward strokes the fabric is ironed and then steamed, and on some fabrics, this may produce an unsightly finish. Thus only the *forward* strokes count on such materials, and ironing efficiency is considerably reduced by the waste of motion on the backward strokes. The irons are also unsatisfactory for ironing gathers and tucks or puffed sleeves. In such small areas of a garment, the material is steamed but not ironed dry, and when finished looks as if it has not been ironed at all.

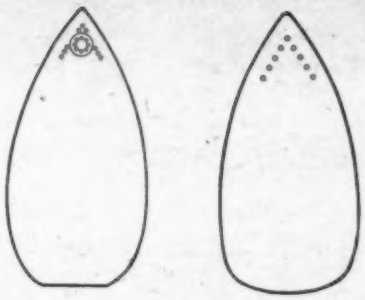


Figure 1

The sole plates of the irons tested. On the left, the Steem-Electric; *on the right, the* Steam-O-Matic.

Limited Usefulness of Steam Irons

Steam irons do have value in certain special uses, but these are fairly limited. Some of them are the pressing of woolen garments, pressing seams flat in dress-making, and steaming pile fabrics, such as corduroys or velvets. The steam iron may also be used with success for ironing some starched articles, such as curtains, which do not require much moisture or much heat. If one does not mind the investment in a steam iron for use on some of these tasks, considerable time and energy may be saved in some cases. For example, steaming pile fabrics, as done with a damp cloth and an ordinary iron held upside down with blocks, is tedious and time consuming. With a steam iron, this can be done by simply passing the iron above the fabric (as the instruction booklets furnished with the irons indicate) and is considerably more convenient.

In the practical ironing tests made for Consumers' Research, both of the irons investigated were found to give poor to only fair results on the fabrics ironed, with the exception of a ladies' rayon and wool mixture coat fabric. Both irons were tested for safety in causing sticking or fusing of acetate rayon, which is very susceptible to this type of damage, and were found satisfactory in this respect. (For this test the rayon setting was used on the *Steam-O-Matic*. The other iron had no temperature-controlled thermostat.)

Because of its limited uses and relatively high cost, a steam iron may not be a wise choice for a family whose budget limits it to one iron, although an iron that can be used either with or without steam has certain advantages, if it is equipped with a reliable thermostat. There are still improvements to be made in workmanship and design, however, before even the dual-purpose irons can be considered fully satisfactory. The *Steam-O-Matic* iron tested (a dual-purpose iron, usable either for dry or steam ironing) was bulky compared with the conventional irons now available. It was also heavy (its weight was about the same as the heaviest of the conventional irons—of the automatic or recommended type—recently tested by Consumers' Research, and about half again as heavy as the lightest ones). (When the iron is used as a steam iron, the water will increase the weight by about three-fourths of a pound.) A heavy iron is always a disadvantage. It has been estimated that women during the course of a weekly ironing may lift an iron as many as 1500 times, which means doing a great deal of extra work in the course of an ironing day, if the iron used is needlessly heavy.

Use of Steam Irons

Of the two irons tested for the present study, one, as al-

ready noted, the *Steam-O-Matic*, could be used with or without steam as desired; the *Steem-Electric* iron could be used with steam only. Either iron is to be filled with a little less than a pint of water, and the manufacturers suggest the use of rain water or distilled water, which is a matter of practical importance as it will tend to delay greatly the formation of a deposit or scale of mineral matter from the water, inside the water-space. The makers also suggest that hot water be used whenever possible for filling the iron, to speed the formation of steam. For most housewives, the storing of a special supply of soft water for use in an iron would be a disadvantage, as would the pre-heating of the water before use.

Care must be used when filling a hot iron, to avoid burning oneself. As the water is poured into a hot iron, a jet of steam will rise from the water space and some of the hot water may even be ejected forcefully upward and outward from the funnel. The *Steam-O-Matic* had a metal filler plug, which of course became very hot when the iron was in use; it was necessary to use a cloth or pad to protect the fingers when removing it. The *Steem-Electric* tested had a plastic plug, which did not become so hot to the touch.

* * *

Neither of the irons tested had any pressure release valve as a safety measure in the event that the steam escape channels on the bottom of the iron should become plugged up.

The Problem of Repairs

Steam irons are likely to present difficulties for the average serviceman in carrying out repairs because of the variety of constructional details and fastening methods used. Under present conditions and perhaps for a considerable time in the future, anything which makes servicing an appliance difficult will be troublesome to consumers because of the scarcity of competent servicemen and their indisposition to take on additional work which involves more than normal time and trouble. Some electric repairmen find that they cannot handle steam irons advantageously, and hence will not accept them for repair.

Those who have wanted repairs made on *Steem-Electric* irons in the past have had some difficulty. According to complaints received by the St. Louis Better Business Bureau, repairs for this iron were handled by the Steam Electric Service Co., which accepted repair orders, took in irons, cashed checks and money orders, and then ignored inquiries concerning the irons even after the lapse of much time. During the test just finished, Consumers' Research obtained a spare filler plug from this company at a price of 50 cents—a very high price for a plastic plug that is in the general category of products for which a Woolworth store might be expected to charge 5 or at most 10 cents.

The listings that follow are based on practical ironing tests and on examination of the mechanical features of the irons. Ironing results appear in the table on this page. No significant difference in the performance of the two irons as to ac-

Table I—Results of practical ironing tests on two steam irons studied to determine suitability of this type of iron for ironing different kinds of fabric.

Fabric	*Appearance of Work*	*General Comment*
Rayon underwear, Sample 1	Poor, wrinkles not removed, dull finish.	Poor
Rayon underwear, Sample 2	Poor, wrinkles not removed, dull finish.	Poor
Rayon crepe	Poor, wrinkles not removed, dull finish.	Poor
Bemberg rayon triple sheer	Poor, wrinkles not removed, dull finish.	Poor
Acetate rayon ninon fabric	Wrinkles not removed, moiré effect and shine marks produced.	Poor
Linen toweling	Partial wrinkle removal, no shine.	Fair
Cotton corduroy	Good results when pressed on back.	Good
Ladies' coat fabric, rayon and wool	Good.	Good

The Steam-O-Matic *and the* Steem-Electric

tual ironing was noted. Ratings are cr45.

B. Intermediate

Steam-O-Matic, Model B-200 (Waverly Tool Co., Sandusky, Ohio) $14.25. Weight (empty) 4 lb., 11 oz. Could be used with or without steam. Equipped with a thermostat. Had metal filler plug, and a back rest so that iron could be rested on its heel. Sole plate properly beveled in front where required (desirable). Began to steam after 7 to 8 minutes at the linen setting. Had a wooden handle of such a shape and height that the fingers might easily come in contact with the top surface of the hot iron or with the thermostat knob. Had more even sole plate temperatures than *Steem-Electric*.

C. Not Recommended

Steem-Electric (Steem Electric Co., St. Louis) $13.95. Weight (empty) 5 lb., 9 oz., about 1/5 heavier than the *Steam-O-Matic*. No thermostat. Designed for use as a steam iron only. Filler plug made of plastic, which would be less likely to burn the fingers than the aluminum plug of the *Steam-O-Matic* (but threads of the plastic are more easily damaged than metal). No back rest. Sole plate not beveled as on *Steam-O-Matic*. Required 7 to 8 minutes after being plugged in, before steaming began. Had handle made of plastic, molded with a back-sweep under the front of the handle which helps to protect the fingers from contact with the hot iron. Handles made of plastic are relatively free from troubles with swelling, warping, and splitting that may affect wood handles. This iron did not glide so easily as the *Steam-O-Matic* tested. ¶Two samples of this iron were faulty in that when filled with water to capacity, as might easily occur, water and steam leaked from the joint between the sole plate and the body of the iron. In this condition, the water evidently came into contact with the heating element, for there was considerable leakage current (involving shock hazard) for a short time; the iron might become a hazard to the user during this interval. Safe operation may require that the *Steem-Electric* iron always be filled only to the extent directed by the manufacturer's instructions—with about ¾ pint of water.

Special Marking Pencils

GLASS-MARKING pencils have special uses in marking glass, metal, porcelain, or other smooth or polished surfaces over which the points of ordinary pencils, black or colored, slip without leaving a mark. They are used in laboratories for marking beakers, crucibles, and the like, and occasionally find use in offices or homes. They are priced at about 20 cents each.

Glass-marking pencils are made from various waxes, filler, and pigment. The pigments are commonly of a highly poisonous nature, for example, compounds of lead and chromium, a fact that should be kept in mind in use and storage of such pencils. On account of the very weak character of leads in glass- and china-marking pencils it is necessary that they should have leads of large diameter. Those of pencils in this test were 3/16 inch in diameter.

Marks on paper made by pencils of the brands listed were tested for colorfastness to light in a Fade-Ometer; all were found to show no fading, or very little fading. All marked glass and porcelainware satisfactorily.

A. Recommended

Blaisdell "Laboratory" Heat Resisting, 368-T, Blue (Blaisdell Pencil Co., Philadelphia)

Blaisdell "Laboratory" Heat Resisting, 370-T, Yellow (Blaisdell Pencil Co.)

Cenco Glass Marker, No. 1401 8-A Black (Central Scientific Co., Chicago)

Dixon PHANO for Glazed Surfaces, 71, Red (Joseph Dixon Crucible Co., Jersey City, N. J.)

Ratings of Motion Pictures

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Chicago Daily Tribune, The Christian Century, Cue, Daily News (N.Y.), *The Exhibitor, Harrison's Reports, Mademoiselle, Motion Picture Herald, National Legion of Decency List, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Preview Committee, Successful Farming, Time, Variety* (weekly), and *Unbiased Opinions of Current Motion Pictures*, which includes reviews by the General Federation of Women's Clubs, the American Legion Auxiliary, National Film Music Council, and others.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), and C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Technicolor or Cinecolor)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
soc—social-problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
—	6	8	**Abbott and Costello in Hollywood**	*mus-com AYC*
—	3	7	**Adventures of Rusty**	*dr AYC*
—	12	5	**Affairs of Susan, The**	*com A*
1	11	4	**Along Came Jones**	*wes AYC*
—	—	7	**Allotment Wives**	*war-mel A*
7	9	—	**Anchors Aweigh**	*mus-com-c AYC*
1	11	2	**And Then There Were None**	*cri-mys A*
—	1	7	**Apology for Murder**	*cri-dr A*
—	5	2	**Arson Squad**	*cri-mel AYC*
—	11	4	**Back to Bataan**	*war-dr A*
—	3	1	**Bandits of the Badlands**	*wes A*
—	1	3	**Barge-Keeper's Daughter, The**	*com A*
1	5	1	**Battle for Music**	*mus-doc AYC*
—	4	7	**Beautiful Cheat, The**	*mus-com A*
—	5	8	**Bedside Manner**	*com A*
—	2	3	**Behind City Lights**	*dr A*
6	7	2	**Bell for Adano, A**	*war-dr A*
—	6	—	**Bells of Rosarita, The**	*mus-wes AYC*
3	1	—	**Bells of St. Mary's, The**	*dr AYC*
—	5	10	**Bewitched**	*dr A*
—	1	4	**Blazing the Western Trail**	*mus-wes AYC*
3	9	3	**Blithe Spirit**	*com-c A*
—	2	6	**Blonde from Brooklyn**	*mus-com A*
—	—	9	**Blonde Ransom**	*mus-com A*
1	12	3	**Blood on the Sun**	*war-mel A*
—	1	6	**Border Badmen**	*wes AYC*
—	2	6	**Boston Blackie's Rendezvous**	*mel A*
—	1	2	**Both Barrels Blazing**	*mus-wes AYC*
—	9	4	**Brighton Strangler, The**	*cri-mel A*
—	2	10	**Bullfighters, The**	*com A*
6	9	4	**Captain Eddie**	*biog-dr AYC*
—	7	7	**Captain Kidd**	*mel AYC*
—	5	10	**Caribbean Mystery, The**	*mys-mel A*
—	—	5	**Castle of Crimes**	*mys-mel A*
—	7	5	**Cheaters, The**	*dr AYC*
—	7	8	**China Sky**	*war-mel A*
—	4	4	**China's Little Devils**	*war-mel A*
—	7	8	**Christmas in Connecticut**	*com A*
—	1	4	**Cisco Kid Returns**	*wes AYC*
1	14	1	**Clock, The**	*war-rom A*
—	2	4	**Club Havana**	*mus-mel A*
1	7	1	**Col. Effingham's Raid**	*dr A*
—	2	4	**Come Out Fighting**	*com AYC*
1	4	5	**Confidential Agent**	*war-mel A*
2	9	3	**Conflict**	*cri-mel A*
5	5	6	**Corn Is Green, The**	*dr A*
—	3	2	**Cornered**	*war-mel A*
—	2	1	**Corpus Christi Bandits**	*wes AYC*
—	10	6	**Counter-Attack**	*war-dr A*
—	—	3	**Crazy Knights**	*cri-mel AYC*
—	4	3	**Crime Doctor's Warning, The**	*mys-dr A*
—	4	2	**Crimson Canary, The**	*mus-dr A*
—	4	3	**Dakota**	*mel A*
—	3	1	**Daltons Ride Again, The**	*wes AYC*
—	2	7	**Danger Signal**	*mel A*
—	2	6	**Dangerous Intruder**	*cri-mys A*
—	8	7	**Dangerous Partners**	*mel A*
—	3	2	**Danny Boy**	*dr AYC*
—	1	2	**Dawn Over France**	*hist-dr A*
—	3	2	**Detour**	*cri-mel A*
1	11	4	**Diamond Horseshoe**	*mus-com-c A*
—	3	7	**Divorce**	*dr A*
—	10	6	**Dolly Sisters**	*mus-com-c A*
—	5	11	**Don Juan Quilligan**	*com A*
—	6	—	**Don't Fence Me In**	*mus-wes A*
1	14	4	**Duffy's Tavern**	*mus-com A*
—	4	6	**Easy to Look At**	*mus-com AYC*
—	6	1	**Enchanted Forest, The**	*fan-c AYC*
—	2	1	**Enemy of the Law**	*mus-wes AYC*
—	2	10	**Escape in the Desert**	*war-mel A*
—	3	4	**Eve Knew Her Apples**	*mus-com A*
—	4	8	**Falcon in San Francisco**	*cri-mys A*
1	1	6	**Fall of Berlin**	*war-doc A*
1	4	5	**Fallen Angel**	*mys-mel A*
—	1	5	**Fashion Model**	*cri-mel AYC*
—	—	5	**Fatal Witness, The**	*cri-mel A*
—	4	5	**Fighting Guardsman, The**	*adv A*
—	7	8	**First Yank into Tokyo**	*war-dr A*
—	11	4	**Flame of Barbary Coast**	*mus-mel A*
—	1	4	**Flame of the West**	*wes A*
—	6	5	**Follow That Woman**	*cri-mel A*
—	3	8	**Frozen Ghost, The**	*mys-mel A*
—	3	2	**Game of Death, A**	*cri-mel A*
—	1	4	**Gangs of the Waterfront**	*cri-mel AYC*
—	1	2	**Gangster's Den**	*wes AYC*
—	5	4	**Gay Senorita, The**	*mus-com AYC*
—	6	9	**George White's Scandals**	*mus-com A*
—	3	1	**Getting Gertie's Garter**	*com A*
—	4	4	**Girl No. 217**	*war-dr A*
—	3	6	**Girl of the Limberlost**	*mel AYC*
—	1	4	**Girls of the Big House**	*cri-mel A*
—	9	5	**Great John L., The**	*mus-mel A*
1	9	6	**Guest Wife**	*com A*
—	5	3	**Guy, a Gal, and a Pal, A**	*rom A*
—	2	3	**Half-Way House, The**	*fan A*
1	4	12	**Her Highness and the Bellboy**	*rom AYC*
—	10	7	**Hidden Eye, The**	*cri-mys AYC*
—	3	5	**Hitchhike to Happiness**	*mus-com AYC*
—	3	9	**Hold That Blonde**	*com A*
—	2	5	**Honeymoon Ahead**	*mus-com A*
—	6	8	**Horn Blows at Midnight, The**	*com A*
5	11	—	**House on 92nd St., The**	*war-mel AYC*
—	2	2	**How Do You Do?**	*mus-cri-com A*
—	2	6	**I Love a Bandleader**	*mus-dr AYC*

A	B	C		
1	6	3	**Identity Unknown**	*war-dr AYC*
—	3	8	**I'll Remember April**	*mus-dr A*
—	4	5	**I'll Tell the World**	*mus-com AYC*
2	12	2	**Incendiary Blonde**	*mus-mel A*
1	5	6	**Isle of the Dead**	*mys-mel A*
—	5	9	**Jealousy**	*mys-mel A*
—	10	3	**Johnny Angel**	*mys-mel A*
—	5	2	**Johnny in the Clouds**	*war-dr A*
—	2	9	**Jungle Captive**	*mel A*
2	13	2	**Junior Miss**	*com AYC*
1	12	2	**Kiss and Tell**	*com A*
2	5	2	**Kitty**	*dr A*
—	2	6	**Lady Confesses, The**	*cri-mel A*
—	4	9	**Lady on a Train**	*mys-com A*
2	8	1	**Last Chance, The**	*war-dr A*
—	3	3	**Last Hill, The**	*war-dr A*
—	2	1	**Lone Texas Ranger, The**	*mus-wes AYC*
—	1	3	**Lost Trail, The**	*wes AYC*
1	7	3	**Lost Weekend, The**	*nov A*
—	1	9	**Love, Honor and Goodbye**	*com A*
2	11	4	**Love Letters**	*war-dr A*
—	2	4	**Love on the Dole**	*dr A*
—	3	8	**Mama Loves Papa**	*com A*
—	3	8	**Man Alive**	*com A*
—	8	—	**Man from Oklahoma**	*mus-wes AYC*
—	5	1	**Marie-Louise**	*war-dr AYC*
—	1	2	**Marshal of Laredo**	*wes A*
2	13	—	**Medal for Benny, A**	*dr A*
—	4	9	**Men in Her Diary**	*com A*
—	3	3	**Mexicana**	*mus-com A*
2	7	5	**Mildred Pierce**	*dr A*
—	2	3	**Military Secret**	*war-mel A*
—	1	6	**Missing Corpse, The**	*cri-com A*
—	3	2	**Muggs Rides Again**	*mel AYC*
—	7	7	**Murder, He Says**	*cri-com A*
—	7	3	**My Name is Julia Ross**	*cri-mys A*
—	6	9	**Naughty Nineties, The**	*mus-com AYC*
—	3	—	**Navajo Trail, The**	*wes AYC*
—	7	7	**Nob Hill**	*mus-dr-c A*
—	5	4	**On Stage Everybody**	*mus-com AYC*
—	3	6	**One Exciting Night**	*cri-com A*
2	12	—	**Our Vines Have Tender Grapes**	*dr AYC*
1	12	3	**Out of This World**	*mus-com A*
—	—	7	**Outlaws of the Rockies**	*mus-wes AYC*
—	11	4	**Over 21**	*com A*
1	7	—	**Pardon My Past**	*com A*
—	7	4	**Paris Underground**	*war-mel A*
1	9	3	**Patrick the Great**	*mus-com AYC*
—	1	9	**Penthouse Rhythm**	*mus-com A*
—	4	4	**People Are Funny**	*mus-com AYC*
—	2	4	**Phantom of 42nd St., The**	*cri-mel A*
—	5	3	**Phantom Speaks, The**	*mys-mel A*
—	1	2	**Pillow of Death**	*cri-mel A*
—	8	7	**Pillow to Post**	*war-com A*
—	2	7	**Power of the Whistler**	*mys-mel A*
2	12	2	**Pride of the Marines**	*war-dr A*
—	4	4	**Pursuit to Algiers**	*mus-mel AYC*
—	3	9	**Radio Stars on Parade**	*mus-com AYC*
—	2	1	**Return of the Durango Kid, The**	*mus-wes AYC*
8	4	5	**Rhapsody in Blue**	*mus-biog AYC*
—	—	5	**Rhythm Round-Up**	*mus-wes AYC*
—	2	8	**River Gang**	*mel A*
—	2	4	**Road to Alcatraz**	*cri-mys AYC*
—	—	5	**Rockin' in the Rockies**	*mus-wes AYC*
1	2	1	**Rough Riders of Cheyenne**	*wes AYC*
—	1	4	**Rustlers of the Badlands**	*mus-wes AYC*
—	—	—	**Rusty (See Adventures of)**	
—	5	10	**Salome, Where She Danced**	*mus-dr-c A*
—	5	—	**San Antonio**	*mus-wes-c AYC*
—	3	1	**Sante Fe Saddlemates**	*wes AYC*
3	4	3	**Saratoga Trunk**	*mel A*
—	—	7	**Scared Stiff**	*mys-com AYC*
—	3	4	**Scarlet Clue, The**	*mys-mel A*
—	3	3	**Scotland Yard Investigator**	*mys A*
—	2	7	**Senorita from the West**	*mus-rom AYC*
—	—	4	**Sensation Hunters**	*mel A*
—	4	3	**Shadow of Terror**	*cri-mel A*
—	10	1	**Shady Lady**	*mus-dr A*
—	2	4	**Shanghai Cobra, The**	*cri-mys A*
—	5	3	**She Went to the Races**	*com A*
—	2	1	**She Wouldn't Say Yes**	*com A*
1	6	—	**Silver Fleet, The**	*war-mel A*
—	3	5	**Sing Your Way Home**	*mus-com A*
—	2	1	**Snafu**	*com A*
2	5	7	**Son of Lassie**	*war-mel-c AYC*
—	—	3	**Song of Old Wyoming**	*mus-wes-c AYC*
—	—	10	**Song of the Sarong, The**	*mus-adv A*
1	7	5	**Southerner, The**	*soc-dr A*
—	11	4	**Spanish Main, The**	*adv-c A*
7	4	1	**Spellbound**	*dr A*
—	3	5	**Spider, The**	*mys-mel A*
—	1	2	**Springtime in Texas**	*mus-wes AYC*
—	—	4	**Stagecoach Outlaws**	*wes AYC*
4	12	1	**State Fair**	*mus-com-c AYC*
1	7	—	**Stork Club, The**	*mus-com A*
6	10	1	**Story of G. I. Joe**	*war-dr AYC*
—	—	—	**Strange Affair of Uncle Harry (See Uncle Harry)**	
—	2	7	**Strange Confession**	*cri-mys A*
—	1	3	**Strange Holiday**	*war-dr A*
—	1	2	**Stranger from Santa Fe**	*wes AYC*
—	6	1	**Sunbonnet Sue**	*mus-dr AYC*
—	5	1	**Sunset in El Dorado**	*mus-wes AYC*
—	—	9	**Swing Out, Sister**	*mus-com A*
—	3	6	**Swingin' On a Rainbow**	*mus-com A*
—	2	6	**Tahiti Nights**	*mus-com A*
—	4	3	**Tell It to a Star**	*mus-com A*
—	2	8	**Ten Cents a Dance**	*mus-com A*
—	6	7	**That Night With You**	*mus-com A*
1	8	—	**That's the Spirit**	*mus-fan A*
2	3	—	**They Were Expendable**	*war-mel AYC*
1	6	6	**This Love of Ours**	*mel A*
—	8	8	**Those Endearing Young Charms**	*war-rom A*
1	12	1	**Thousand And One Nights, A**	*mus-fan-c AYC*
—	—	3	**Three in the Saddle**	*mus-wes AYC*
—	2	4	**Three's a Crowd**	*cri-mel A*
2	10	4	**Thrill of a Romance**	*mus-com-c A*
—	—	4	**Tiger Woman, The**	*mys-mel A*
—	3	3	**Too Young to Know**	*dr A*
—	2	1	**Trail of Kit Carson**	*wes AYC*
—	—	3	**Trouble Chasers**	*com A*
7	5	—	**True Glory, The**	*war-doc A*
—	8	3	**Twice Blessed**	*com A*
—	3	7	**Two O'clock Courage**	*cri-mel A*
—	11	6	**Uncle Harry**	*cri-mel A*
—	2	1	**Ural Front, The**	*war-dr A*
3	10	1	**Valley of Decision, The**	*dr A*
—	1	8	**Vampire's Ghost, The**	*mys-mel A*
—	2	1	**Voice of the Whistler, The**	*mys-mel A*
—	5	4	**Wanderer of the Wasteland**	*wes AYC*
2	10	1	**Way Ahead, The**	*war-dr A*
—	2	3	**We Accuse**	*war-doc A*
2	10	5	**Weekend at the Waldorf**	*mus-com A*
1	5	—	**What Next, Corporal Hargrove**	*war-com AYC*
1	13	1	**Where Do We Go from Here?**	*mus-fan-c A*
—	1	6	**White Pongo**	*mel AYC*
—	3	5	**Why Girls Leave Home**	*mus-mel A*
—	2	2	**Wildfire**	*wes-c AYC*
—	4	6	**Within These Walls**	*soc-dr A*
—	9	4	**Woman in Green, The**	*mys-mel AYC*
3	12	1	**Wonder Man, The**	*mus-com-c A*
—	7	5	**Yolanda and the Thief**	*mus-com-c A*
—	10	4	**You Came Along**	*war-mus-dr AYC*
—	2	2	**You Can't Do Without Love**	*mus-mys AYC*
—	—	3	**Youth Aflame**	*dr A*
2	3	—	**Ziegfield Follies**	*mus-com-c A*
—	1	9	**Zombies on Broadway**	*com A*
—	—	8	**Zoya**	*war-dr A*

The Consumers' Observation Post

[Continued from page 4]

shortly, but a "wait and see" attitude is called for, in view of consumers' experience with DDT which was held out to be a miracle fly killer and then was sold in concentrations so weak as to be completely ineffective; was touted, too, as harmless to human beings even when sold in proper strength—yet actually called for extreme caution in handling.

* * *

NEW PRODUCTS: Tool Poc-Kit (Air-Flo Industries, Detroit) is a handy tool pocket designed to be carried from the wearer's belt by a loop sewed on its back surface. The material is heavy canvas duck, and the dimensions are about 7-1/4x8 in. There is one small pocket an inch wide suitable for a steel rule or screw driver and two larger pockets each about 3 inches wide for pliers, wire cutters, a small wrench, a putty knife, or other needed tools. Tool Poc-Kit, now to be found on sale at 10c in some of the variety chain or dime stores, would be a convenient gadget for the handyman doing odd mechanical or repair jobs around the house.

Photographic Exposure Meters of the photo-electric type are again available for those who feel that they need them in order to arrive at satisfactory exposures of their pictures. Peerless Camera Stores, 138 E. 44 St., New York 17, had the following in stock for immediate delivery: G. E. exposure meter and case, $25; DeJur Autocritic exposure meter and case, $23.85; DeJur Critic exposure meter and case, $20.50; and DeJur 5 B exposure meter and case, $15.15. CR, however, does not consider exposure meters at all essential for good photography; in fact people who work without them often do very good work. (For those not familiar with this question, we recommend a reading of "You Don't Need an Exposure Meter," which appeared in the October 1944 Bulletin.)

The Ames Lettering Instrument (O. A. Olson Mfg. Co., 712 Tenth St., Ames, Iowa), at $1, is a useful device for all who have to do a great deal of neat and finished lettering on drawing and sketches, etc.; it will be a distinctly handy tool for the draftsman. The Ames instrument does not give the outline of the letter. Its function when used in conjunction with the T-square or

LAST CALL

for

CR's Annual Cumulative Bulletin!

THERE are apparently a lot of thrifty consumers who are studying manufacturers' and dealers' post-war offerings closely, before deciding what brands to buy.

ALTHOUGH we ordered 20 percent more copies this year of the 1945 Annual Cumulative Bulletin, the demand has been so great that it looks as if our supply will be exhausted by the end of January. Don't say we didn't warn you! If you haven't already secured your copy, we suggest that you fill out and mail the convenient order blank on the next page with your check today.

JUST in case you have overlooked previous announcements, let us remind you that the Annual Cumulative Bulletin is a convenient summary of a wide range of CR's previous findings in the fields of Food, Housing & Home Maintenance, Household Appliances & Equipment, Heating Equipment, Automobiles, Textiles & Clothing, Medicine & Hygiene, Cosmetics & Toilet Supplies.

straight edge is to enable the user to draw quickly and easily the horizontal guide lines for letters varying in height from 1/16 in. to 1-1/2 in., also 68° and 75° slope lines which determine the angle of the up and down lines of the letter with the horizontal. It can also be used as a guide for uniform cross section lines and for music lines. This is a useful application, since the drawing of cross section and similar lines which are exactly evenly spaced is a task requiring considerable skill on the part of the draftsman. Uniform spacing is easy to achieve with this device. Instructions accompanying the instrument are well written and easy to follow.

Snap-Tite Vacuum Bottle Stopper (Moeller Mfg. Co. Inc., Racine, Wis.), at 15c, is a rubber-like plug in association with a mechanical device which gives it some degree of adjustability as to diameter. It is intended to replace the cork in half-pint, pint, and quart size vacuum bottles. The Snap-Tite is widely sold in housewares departments and in 10-cent stores. In construction, the device is a cylindrical rubber plug held between two rust-resisting metal washers that can be brought close together by the use of a bolt operated by a toggle lever. The squeezing together of the two washers compresses the plug so that its diameter may be increased from about 1 inch minimum to 1-1/4 inch maximum.

According to the manufacturer's statement, the stopper was formerly made of pure gum rubber, but it is now made of synthetic rubber. (This synthetic rubber appears to be of a type that does not transmit objectionable flavor to water stored in the bottle.) The device, although more expensive than the ordinary vacuum bottle cork, has the advantage that it will not absorb odors and flavors from the contents of the bottle as a porous cork often does, and that there is less danger that it may slip out when being carried as in a lunch box, and so permit spillage of contents.

As the plug will fit one-half gallon and gallon size glass jugs, it should have its uses also with bottles for storing some types of solutions that are not corrosive to metals.

Minute Dish Mop (Minute-Mop Co., 17 E. 23, Chicago 16), 35c, is to be found in household supply sections of some stores. It consists of a small Du-Pont cellulose sponge mounted on a wooden handle. The wooden handle runs through the center of the sponge which gives it form stability in removing food particles from dishes and pans; the device will, of course, need to be supplemented, in cases where the food is stuck on the sides of a pan or glass baking dish, with steel wool or a metal pot cleaner. By actual trial in use, the Minute Dish Mop is considered somewhat more satisfactory than the string mop; it dries more readily, and its definite outline and square shape make it convenient for getting into corners, and washing off flat surfaces.

PHONOGRAPH RECORDS

By Walter F. Grueninger

Please Note: Prices quoted do not include taxes. In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended.

ORCHESTRA

Respighi: *The Birds.* Chicago Symphony Orchestra under Defauw. 4 sides, Victor Set SP-14. $2.25. A charming suite in which Respighi, using old tunes, presents musical pictures of the Dove, Hen, Nightingale, Cuckoo. Bright recording—sympathetic performance.
Interpretation AA
Fidelity of Recording AA

Rossini: *Overtures.* NBC Symphony Orchestra under Toscanini. 8 sides, Victor Set DV 2. $8.50. Eight sides of sheer delight. Most of the music, familiar to opera and symphony audiences, stands high in its field. Played flawlessly, pressed on the new vinyl resin plastic surfaces. Excessive reverberation. Included are the overtures to "The Barber of Seville," "La Cenerentola," "La Gazza Ladra," "Il Signor Bruschino" and the dance "Passo A Sie" from "William Tell."
Interpretation AA
Fidelity of Recording B

Schubert: *Symphony No. 6* (7 sides) & **Mozart:** *Eine Kleine Nachtmusik*—Rondo (1 side). London Philharmonic Orchestra under Sir Thomas Beecham. Victor Set 1014. $4.50. A pleasant symphony, if not up to Schubert's *Unfinished* and his *Great C Major.* Played well nigh perfectly. Recorded in England recently. Is played at a tempo much slower than that commonly heard.
Interpretation AA
Fidelity of Recording AA

Shostakovitch: *Symphony No. 6* (9 sides) & **Kabalevsky:** *Colas Breugnon*—Overture (1 side). Pittsburgh Symphony Orchestra under Reiner. 10 sides. Columbia Set 585. $5.50. The symphony aroused little interest at its first performance in 1939, not much more since. Superior performance and transparent recording in Victor Set 867. The odd side—a welcome, sprightly work.
Interpretation B
Fidelity of Recording AA

CONCERTO

Beethoven: *Concerto No. 3.* Artur Rubinstein (piano) and the NBC Symphony Orchestra under Toscanini. 8 sides, Victor Set 1016. $4.50. Although not the best of Beethoven's piano concerti, a fine work recorded from the brilliant broadcast performance of October 29, 1944. Despite audience coughs, "dead" studio, occasional wavering of pitch, narrow dynamic range, this is the *Concerto No. 3* to buy.
Interpretation AA
Fidelity of Recording B

Brahms: *Concerto No. 2.* Serkin (piano) and the Philadelphia Orchestra under Ormandy. 12 sides, Columbia Set 584. $6.50. Most critics regard this as a great work. Recording as fine as we have had from the Philadelphians. Surfaces nearly inaudible. Of the three available sets, this one tops the others in fidelity and presents a beautifully integrated performance in the spirit of Brahms.
Interpretation AA
Fidelity of Recording AA

Bruch: *Concerto.* Menuhin (violin) and the San Francisco Symphony Orchestra under Monteux. 6 sides, Victor Set 1023. $3.50. A staple item with lush melodies which please listeners despite critics' insistence the music is not great. Performed by Menuhin, also, in the older Victor Set 124. At times, in the first two movements, Menuhin oversentimentalizes and plays off pitch. On the other hand, Milstein's precise, dignified playing and superb musicianship are the principal assets of Columbia Set 517, for recording and orchestra support are slightly better in the new set, with the exception of blurred sections on sides 5 and 6. A difficult choice, depending somewhat on your admiration of either soloist, with Columbia Set 517 preferred.
Interpretation A
Fidelity of Recording A

Schumann: *Concerto in A Minor.* Claudio Arrau (piano) and the Detroit Symphony Orchestra under Karl Krueger. 8 sides, Victor Set 1009. $4.50. An outstanding romantic concerto. Arrau plays to the Queen's taste most of the time but now and then annoying mannerisms creep in. On the other hand, the performance of the orchestra is not up to the soloist and the recording of the orchestra reveals a disturbing echo which, in the few loud passages, causes a jumble of tone. The last half of side 5 swishes. Older Victor Set 473, Myra Hess soloist, criticized for being exaggeratedly romantic with poor orchestral support, offers a recording less brilliant and thinner than Arrau's. No completely satisfying recording of this work is available though Arrau's is the better of the two.
Interpretation A
Fidelity of Recording A

CHAMBER & INSTRUMENTAL

Bach: *Goldberg Variations.* Wanda Landowska (harpsichord). 12 sides, Victor Set 1002. $6.50. A monumental work long appreciated by connoisseurs. Madam Landowska's performance—world renowned—was previously recorded in an expensive, limited edition society album. This set, recorded June 1945, will be regarded as a boon by far-advanced students of keyboard instruments and music lovers.
Interpretation AA
Fidelity of Recording AA

Beethoven: *Sonata in F Minor* ("Appassionata") (5 sides) & *Sonata in E Flat* (Op. 31, No. 3) Minuetto only (1 side). Artur Rubinstein (piano). 6 sides, Victor Set 1018. $3.50. One of the greatest sonatas in piano repertoire, which Rubinstein plays unevenly mixing what must pass for smashing temperament with rare beauty. Well recorded. Foremost competitors are Gieseking, Serkin, Fischer, all of whom have their boosters; recordings may be available in some shops. Aside from performance, the fidelity and surfaces seem best in Rubinstein's set.
Interpretation B
Fidelity of Recording AA

Mozart: *Quintet in C Major* (K 515). Budapest String Quartet with Milton Katims (viola). 8 sides, Columbia Set 586. $4.50. An important chamber work performed in a way that calls for superlatives. Far better than its competitor, Victor Set 270.
Interpretation AA
Fidelity of Recording A

Oscar Levant Plays Popular Moderns. Levant (piano). 6 sides, Columbia Set 560. $3.50. The music appeals to soldier audiences, for example, who hear it for the first time. Levant plays with flair but some of the numbers are better performed by other artists. Included are Lecuona's "Malaguena"; Debussy's "Golliwog's Cakewalk," "Maid with the Flaxen Hair," "Clair de Lune"; De Falla's "Fire Dance"; Albeniz's "Tango in D"; Poulenc's "Movements Perpétuels."
Interpretation A
Fidelity of Recording A

VOCAL

Prokofieff: *Alexander Nevsky.* The Philadelphia Orchestra under Ormandy with Jennie Tourel (mezzo-soprano) and the Westminster Choir. 10 sides, Columbia Set 580. $5.50. Originally the score for a 1938 Russian film but later expanded into this cantata of seven musical pictures centering on the thirteenth century Russian warrior, Nevsky. Primitive, dramatic. Most parts sung in English, some in Latin. Powerful performance, full-bodied recording with short measure on several discs.
Interpretation AA
Fidelity of Recording AA

46.00